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DIGEST OF OTO-LARYNGOLOGY.

3

Teratoid Tumors of the Nasal Septum. A. B. KELLY, *Jour. Laryngol., Rhinol. and Otol.*, July, 1918.

Two cases are reported, one in a female infant aged two months, the other in a male infant of the same age. The author discusses whatever literature there is on this rare condition. In both cases the appendage protruded from the right nostril, the one in the first case being much larger than in the second.

9

Lesions of Nasal Septum in Cocain Addicts. G. TURTUR, *Policlinico*, May 5, 1918.

Turtur has found necrotic ulceration of the septum common among those who snuff cocain. It develops early, within two or three months, and often entails perforation. This is liable to be attributed to some constitutional disease if the addiction is not known, and recruits have been rejected on this account alone, the history of the cases not being brought out clearly enough to explain matters.

28

Nasal Reflex Neuroses. A. HOFVENDAHL, *Hygiea*, March 30, 1919.

Hofvendahl refers to the prodromes of reflex bronchial asthma—stopping up of the nose, sneezing, watery discharge shortly before the paroxysm—which suggest that nervous coryza and hay fever are reactions of the same type, although of different degrees. When the syndrome appears in bronchial asthma one thinks of a parasympathetic hyperirritation, as evidenced in the blood picture by the eosinophilia. The same is seen in hay fever. Even in nervous catarrh with normal blood picture there is a certain tendency in the same direction. The abundant watery discharge suggests a hyperirritation of the parasympathetic, while the swelling of the turbinals, a phenomenon of vasodilatation, is affiliated. This syndrome is benefited for the time by atropine, which is known to paralyze the parasympathetic. In three cases related by the author tuberculosis was probably the eliciting factor through the action of its toxin which is known to exert a selective action on the parasympathetic. It is possible that tuberculous foci exerted mechanical irritation on the vagus fibres of the parasympathetic. Again, there may have been a congenital liability of the nervous mechanism. Pollen granules may have been active in some of the cases. The author found in the Hospital for Tuberculous about 10 per cent of the patients suffering from so-called nervous coryza, and as a rule this condition had preceded the first signs of the pulmonary lesion by an interval of several years.

52

A Case of Complete Bony Obstruction of Both Nares. W. H. RUTLAND, *Jour. Oklahoma State Med. Assn.*, March, 1918.

The author was called to assist a physician in a case of obstructed breathing. He found that the patient was a new born babe, and the physician was busy keeping the child's mouth open, its tongue depressed and the angles of its jaws held up and forward. Whenever the infant was deprived of this assistance its tongue would immediately force itself upward and backward and obstruct the oropharynx, and it would begin to struggle for breath and become cyanosed. Careful examination showed that the lungs, trachea and larynx were free and that the source of the obstruction must be located up higher than the epiglottis. The uvula, soft palate and nasopharynx were normal. On examining the nose it was found that the anterior two-thirds were normal in appearance, but that it was impossible to pass the smallest size probe through either naris

into the nasopharynx and that this obstruction seemed confined to the posterior fourth of each nostril. In order to give the infant breathing space, the author introduced a tracheotomy tube into its mouth, so that its distal end rested near the base of the tongue. With this device it was able to breathe comfortably, the tube being held in place by a tape passed around the back of the neck. When the infant was two weeks old, the author drilled through the obstruction, using a 4 mm. burr, on one side and found it to be a mass of solid bone about three-eighths of an inch thick. Three weeks later he drilled through the other side and enlarged the first opening. The infant is able to breathe normally.

54

Radium in Cancer of the Upper Air Passages R. BOTEY, *Rev. Espanola de Med. y Cirur.*, Dec., 1918.

Botey gives an illustrated description of his methods for using radium. His experience has been that superficial epithelioma of the nose has usually been completely cured by six exposures of from thirty to sixty minutes each, at intervals of from four to seven days. His results were mediocre with epithelioma of the cheek and in the nose. There is no doubt that in treatment of cancer of the larynx small doses of radium with long exposures are not nearly so effectual as large doses for a few hours. But these large doses, even for a short period, induce such a secondary reaction that the method has to be abandoned. If the radium could act alike on all the cells of the cancer, the cure would be complete, but the deeper lying cells are not destroyed, and the effect on them is only to stimulate them. Metastasis and recurrence are more frequent than after a radical operation. The latter if done early, before there is a glandular involvement, is still as ever, he reiterates, the best treatment. Radium treatment after operation aids in warding off recurrence. Radium applied directly to a cancer in the esophagus improves conditions for some months, but the disease continues its course. In the upper air passages and larynx, superficial cancers, not extending into the depths may be completely cured, especially if the radium tube can be buried in the mass of the tumor. Adenomas are the most amenable.

62

Retronasal Tumors. F. LÆEGAARD, *Norsk Mag. f. Laegevid.*, June, 1918.

Leegaard tabulates the records of 14 cases of retronasal tumors treated by him during the past four years. In nearly all of these cases the growths were extirpated by Denker's operation, the only exception being a recurrence. Two subjects died as a result of the intervention, one apparently from shock and the other from the results of persistent postoperative hemorrhages. Ten cases were cured permanently, and one is marked "doubtful" recovery. The remaining case is an unoperated recurrence. The total number of recurrences was three, of which two were cured by the second operation. The patients were with one exception adolescents—boys from thirteen to twenty years of age; the exception was a boy of six years. The absence of any girls from this series may have been due to the character of the operation, which excluded their sex on account of the resulting disfigurement. The microscopic diagnosis appears to have had no connection with the prognosis. The cases marked sarcoma recovered, while the relapsing and fatal cases were not sarcomatous. The narcosis used was general in all but five cases, chloroform being the anesthetic; in the five exceptions Kuehn's intubation was substituted. The shock death occurred under the latter, morphine and ether having been the anesthetics.

63

Cerebral Carcinoma of Naso-pharyngeal Origin. C. A. MCKENDREE, *Neurological Bulletin*, Feb., 1918.

The patient presented the following symptoms: itching of the right side of tongue, sensation of coolness on the right side of face, pain in tem-

poral region and forehead of right side, sensation of having right side of lower lip pulled outward, internal strabismus of the right eye. Except for diplopia vision unaffected. No nausea or vomiting, no loss in weight, no night sweats, no nocturia, no sphincteric involvement, no vertigo. Symptoms gradual and progressive. In nasopharynx a mass present which bleeds easily upon gentlest application of cotton applicator. This mass nearly fills the midline and to the left of the line. It covers one pharyngeal end of Eustachian tube—on right. Diagnosis, carcinoma of hypophysis. Tissue removed later during exploration proved to be definitely carcinomatous and of same type as that removed from vault of nasopharynx.

67

Hypophyseal Tumors. A. W. Adson, *Jour. A. M. A.*, Aug. 31, 1918.

Adson calls attention to the intradural method of operation for hypophysial tumor, and gives the details of the technic of the intradural approach after an osteoplastic flap has been turned from the right frontoparietal region. The dura is opened widely to permit the exposure of the frontal lobe, which is protected with cotton and rubber tissue. The lobe is then elevated gently until the optic commissure and the hypophysis are exposed. The author reports six cases. A case of nasopharyngeal tumor projecting intracarnially producing visual disturbances is presented for comparison. In two of the six cases, the patients presented very definite bitemporal hemianopsia, with more or less complete loss of vision in the left eye. "One patient had a complete loss of vision in the right eye for ten years, and left a temporal hemianopsia; one presented a typical acromegalic syndrome with a temporal color hemianopsia and constricted object field; one had bitemporal hemianopsia with more or less distorted fields in the left eye, and one had blindness in the right eye with definite neighborhood symptoms producing a frontal lobe syndrome of pressure and localization, involving the uncinate gyrus. Postoperative convalescence was uneventful and rapid in all but one case, in which the patient died on the second day. In two cases there was complete restoration of vision, in two marked improvement in vision, and in one a relief from headache. In the case of blindness in the right eye which was complete for ten acromegaly is having metabolic changes. In five cases there has been definite improvement. In one, no visual improvement, but relief from years, the patient has begun to have a return of vision. The patient with pain was obtained." The special advantages are its easy approach and dry field, the exposure permitting the dissection of the tumor from the optic nerves and commissure, and a removal of all parts that are needed. The sponging is done against the floor of the sella instead of working upward against the commissure and nerve peduncles. The operation is no more formidable than craniotomy of the frontal lobe, much depending, of course, on the skill of the operator. The article is very fully illustrated.

71

Initial Syphilitic Lesions in Nasal Fossae. G. Basile, *Policlinico*, June 2, 1918.

Basile reports three cases in which the primary lesion developed in the nose. In one man of thirty, it assumed a diphtheroid-erosive form, with intense headache and profuse nasal secretion, all on the left side, with fever, and nocturnal exacerbations. No benefit was derived from two injections of diphtheria antitoxin, and the appearance of the skin lesions elsewhere three weeks later cleared up the diagnosis of syphilis. In another case a girl of twelve developed a neoplasm in the nose. It was excised and found to be of syphilitic nature, with spirochetes. The child had the charge of an infant who proved to have inherited syphilis. The initial syphilitic lesion may assure a form suggesting impetigo, and this is difficult to recognize; it is extremely rare. The presence of a few enlarged glands, hard, elastic and indolent, in the submaxillary region is suspicious. There is usually a tendency to anemia and headache on

the side affected. The syphiloma is generally found on the outer wall of the nasal fossa, but it may be on the septum. It subsides as the disease approaches the secondary phase, and there is none of the destructive action of a tertiary nasal lesion. The rapid development excludes cancer. The Wassermann reaction is seldom positive with these initial lesions.

80

Naso-Pharyngeal Conditions in Meningococcus Carriers. F. J. CLEMINSON, *British Med. Jour.*, July 20, 1918.

Cleminson concludes from an investigation into the anatomical and pathological conditions of the nose and nasopharynx in meningococcus carriers that the following factors may suggest an explanation of the wide variation in resistance to treatment noticeable in such cases. He sums up his results as follows: (1) Factors favoring the genesis of carriers—(a) the presence of adenoids; (b) the conditions implied in the term "firm mucous contact." (2) Factors unfavorable to the genesis of carriers—already existing septic infection of the sinuses. (3) Factors favoring resistance to treatment—(a) pyorrhea alveolaris; (b) firm mucous contact; (c) already existing septic infection of the sinuses. Cleminson states, however, that these conclusions are based on so short a series of cases—forty-seven carriers and an equal number of controls—that they must be accepted with the greatest reserve; they offer the strongest inducement for a similar investigation on, say three to five hundred carriers. In general it may be said that they point in the direction of the accessory sinuses as being the main seat of meningococcus infection in carriers, these cavities being often difficult to disinfect, and therefore, able continually to reinfect the upper and more secluded portions of the nasopharynx, even though these may be swept clean periodically by the antiseptic used. Moreover, the lymphatics surrounding the olfactory nerves, which are in close relation to the ethmoidal cells, may possibly provide an easy avenue for infection of the meninges. It was thought that such an investigation as that undertaken by Captain Clemison might result in some modification of treatment which would diminish the number of carriers and thus aid in maintaining field strength and also lessen the risk of outbreak. The author points out that such a result has already been attained, the above observations having led Captain Glover to precede flavine or other spray treatment at a fixed time by a spray of adrenalin chloride, 1 in 6,000, in normal saline. The effect of this reagent is, by shrinking up the mucosa, to increase the airway, dilate the ostia of the accessory sinuses, and allow of a much freer access of the antiseptic spray to all parts of the nose. This has been followed by a material improvement in results and has proved to be the best method tried in the laboratory this year. The author hopes to continue his research along lines indicated and suggested by the results reported. He believes that eventually it may be possible, as in diphtheria, to clear up an obstinate carrier of the meningococcus by some simple surgical procedure, such as the removal of the anterior half of the middle turbinals, by throwing open the ostia of the majority of the accessory sinuses, and thus shorten the period of isolation.

86

Ozena Not a Specific Microbian Disease, but a Local Trophic Affection Which Is Easily Cured. DR. J. DUVERGER, *Revue de Laryngologie, d'Otologie et de Rhinologie*, Jan 15, 1918.

Ozena is a local trophic disease, which affects at first the nasal mucosa and eventually the adjacent bony structures; it depends directly on a general miopragic condition.

The air is the physiologic excitant which is indispensable for the nasal mucosa and especially for the secretory (glandular) functions.

The cure of the patient, especially in subjects under 30 years and fully developed, is easy.

All that is necessary is to re-educate the nasal respiratory function, after the nostrils have been cleared of the crusts.

In order to remove the crusts, all irrigation should be strictly avoided, as it traumatizes the epithelium and increases the glandular secretions. Light massage should be used for this purpose, and oily sprays with the mineral oils.

As the patients generally lose during the night the benefits of the respiratory re-education made during the day, it is indispensable to compel them to breathe through the nose at night as well as during the day.

As the general condition is directly connected with the development and persistence of the disease, this should also be treated.

The cure of cases of ozena is permanent provided, after recovering their normal general condition, the nasal respiratory function remains completely re-educated, that is that the patient breathes exclusively through the nostrils both by day and night.

Duverger believes that in many cases a special nurse should be employed to see that the nasal respiration is maintained during the night, and even suggests that a special hospital should be established for this purpose.

W. SCHEPPEGRELL.

98

Rhinophyma Successfully Treated with Radium. DR. HEIDINGSFELD, *Jour. Cutaneous Diseases*, May, 1918, p. 314.

A man of fifty-six presented himself with a rhinophyma of about five years' duration. The growth was most rapid immediately preceding radium treatment and the lesion attained the size of a walnut perched prominently on the dorsal aspect of the nose. Radium was applied at two or three week intervals, a total of eighteen applications being made. Cure.

122

Rhinoplastics and Nasal Prosthesis. A. PONT, *Annali di Odontologia*, Aug., 1918.

Pont states that rhinoplasty is always to be preferred to nasal prosthesis provided a good result can be obtained. Nasal prosthesis will be indicated (1) when rhinoplasty is contraindicated or impossible; (2) when rhinoplasty has not given good esthetic results; (3) as a temporary restoration of the lost tissue before or during the different phases of the surgical operation.

Rhinoplasty is especially indicated in cases of traumatic loss of the nose, and it is for this reason that rhinoplasty with cartilaginous grafting has been extensively employed during the war.

123

Malformation of the Nostril in an Infant. A. PUGNAT, *Revue de Laryngol.*, May 31, 1918.

A case of appendage or teratoid tumor of the nostril in an infant, twenty days old, the mass left completely obstructing the nares on that side. Covered with skin similar to that of the nose. Attached by a pedicle to the superior angle of the nostril. Tumor removed by galvano-cautery.

161

Myiasis of the Palate. J. HANSEN and S. MAZZA, *Prensa Medica*, June 10, 1918.

The patient was accustomed to sleep with his mouth open during his siesta in the fields. He applied for relief from sore throat; a patch of gangrene in the center of the palate attracted attention, and this was flushed with an antiseptic. The fourth day from the first symptoms he expelled from his mouth a worm, the larva of a fly. The gangrenous patch was then excised and in a cavity behind it were found 265 larvae of the blue meat fly. The larvate measured from 15 to 18 mm. long by 3 mm. in diameter.

170

Peritonsillar Abscess. G. BILANCIONO, *Policlinico*, May 5, 1918.

Bilancioni remarks that phlegmons close to the tonsil are rather frequent in soldiers, so that he has had opportunity to study quite a number of them. He has become convinced that the Killian, Lemaitre and Ruault technics do not answer the purpose of radical treatment so well as to cut out the upper half, at least, of the tonsil. This ensures complete drainage; the lower portion of the tonsil can be left unmolested. The anatomic conditions do not favor extension of the phlegmon downward, while the conditions around the upper part of the tonsil invite retention of pus. This is the cause of the frequent relapses with other technics.

174

Two Cases of Paranephritis of Tonsillar Origin. R. BOTTESELLE, *Riforma Medica*, Jan. 19, 1918.

Botteselle refers to the occurrence of paranephritic phlegmon as a metastasis from local infections of all kinds and from infected blood states. This lesion has received numerous designations and its precise seat and pathogenesis have been much debated. The fibrous capsule of the kidney, the connective tissue which invests it and the perirenal fatty tissue may doubtless be attacked individually and separately, but the incidence of the affection is largely due to the presence of the adipose tissue which is in close relationship with the renal capsule. It is not apparent why in a hematogenous infection this tissue should invite metastasis, and the prevalent view is that various micro-organisms on their way toward elimination by the kidneys migrate from the latter into the pararenal tissue, an activity which is greatly facilitated by the arrangement of the blood vessels. Both patients were young women who complained first of distress in the right flank, with a systemic reaction which caused them to take to their beds. The antecedent tonsilitis was mild and in one case must have been very pugnacious. The patient seems to have had a purulent infection of a finger, as shown by a recent scar; this was perhaps itself a metastasis—or it may have been the original source of infection. The symptoms in the flank showed aggravation and the general reaction suggested some septic qualities. Everything pointed to a suppuration in the region of the right kidney. In one patient the urine was quite normal while the other showed the presence of albumen, red cells and casts. On employing the segregation, it was found that the function of both kidneys was disturbed, while both showed minimal evidences of infection. In both subjects, however, the urine was sterile, or at least negative to culture tests. The author, despite the finds in one case, regards the kidneys as practically intact. In both cases the blood examination showed some leucocytosis. Sudanophiles were present, but not in a marked degree. Blood cultures are not quoted. In but one patient was an *x*-ray taken, showing a faint shadow under the liver. Both patients were treated by incision over the suppurating area, which evacuated a certain amount of pus. The cause in one case was the streptococcus; in the other the staphylococcus, which were isolated from the latter.

231

Physiologic Value of the Tonsils. E. PRADA, *Arch. Espan. de Pediatria*, April, 1918.

Prada found the hemoglobin percentage very much higher after the tonsils had been removed, in his examination of thirty children before and after tonsillectomy. The better respiration and oxygenation of the blood after the enlarged tonsils had been removed amply explain this improvement in the blood. Tests by Abderhalden's technic, as to defensive ferments, confirmed the apparently insignificant role played by the tonsils in the organism of children, so far as our present means of research can determine. He advises tonsillectomy when the child is inclined to deafness, and also when the child has had diphtheria, as the tonsils are liable to harbor the bacilli long, as well as when the tonsils are subject to recurring inflammation or merely obstruct respiration.

280

Mixed Tumors of the Salivary Glands. A. FRASER, *Surg. Gyn. and Obstet.*, July, 1918.

The author discusses the embryologic and pathologic aspects of tumors of the salivary glands and makes the following summary: (1) Mixed tumors arise from the ducts of adult glands; (2) the endothelial theory has no foundation in fact. All the so-called endothelial structures are easily explained as natural modifications of primary duct formations. The most common one, perithelioma, is a figment without histological basis, for it is now generally agreed among the histologists that the perivascular lymph space lined with endothelium, but merely a tissue space is not a lymph space lined with endothelium, but merely a tissue space to facilitate the expansion and contraction of the vessel. (3) Injury, as well as obstruction, plays a prominent part in the origin of these tumors.

284

Pharyngeal Hemorrhage Due to Leeches. J. M. BIGGS, *Jour. Tropical Med. and Hygiene*, April, 1918.

Biggs reports the case of a white man who had been in Egypt eight months and had taken a drink of water in his cup from a running stream. A few hours later he began coughing and brought up some blood. This continued up to the time of his admission to the hospital, ten days later. The pharynx was congested and the voice hourse. During the fourth night after admission he complained of a choking sensation and coughed something into his mouth which he did not expectorate, as he "feared it was a piece of his lung." Next morning he found it had stuck to his upper gum, and was a leech about one and one-half inches long, presumably swallowed a fortnight before. Thereupon all discomfort and hemorrhage ceased. In a second similar case the patient complained of a tickling cough, sore throat, dysphagia, and blood spitting. A leech was found attached to the upper jaw and resting in a cavity left by two extracted teeth in the lower jaw.

312

Relation of Streptococcus to Bovine Mastitis and Septic Sore Throat. D. J. DAVIS, *American Jour. Public Health*, Jan., 1918.

The question of pasteurization is an interesting one in relation to these infections. In the case of several epidemics in this country, Davis says that the infected milk had been pasteurized by the "flash" method and the evidence in all indicated quite clearly that the milk was contaminated before the pasteurization. Therefore the "flash" method is inefficient. The harm it may do by giving people a sense of false security is also self-evident. In certain epidemics the milk was consumed raw. It would seem that the only safeguard against such epidemics is efficient pasteurization not only of the milk and cream, but also of the material entering into the manufacture of other milk products. It is a point of some importance that it is not uncommon for firms to sell pasteurized milk, but to sell cream in the raw state. The latter is even more dangerous than milk. The question as to what constitutes efficient pasteurization for streptococci is one that requires further study. It is commonly stated in the literature that pathogenic streptococci are killed at relatively low temperatures (52-54 C. for ten minutes, Sternberg). Undoubtedly for many strains this is altogether too low. The recent work of Ayres and Johnson indicated that the thermal death point of typical streptococci varies considerably and one of twenty-two strains studied by them resisted heating for thirty minutes at 62.8 C. (145 F.), the usual temperature for pasteurization. Furthermore, their viability in milk and milk products should be carefully studied, since we know that media may exert an important effect on the resistance of organisms to heat. In Davis' work in which ninety-eight strains of streptococci of human origin none of twenty-four pathogenic hemolytic streptococci of human origin

resisted 60 C. (140 F.) for thirty minutes. Twenty of seventy-four strains of hemolytic streptococci of milk origin and having practically no virulence resisted 68.3 C. (155 F.) for thirty minutes. Davis knows of no evidence to indicate that strains of streptococci pathogenic to man can resist the usual temperature for pasteurization (145 F. for thirty minutes).

319

Radium in the Treatment of Carcinoma of the Buccal Cavity. R. B. GREENOUGH, *Boston Med. and Surg. Jour.*, May 2, 1918.

The report deals with a total of 139 cases of mouth cancer, but not all of them were subjected to radium treatment. For example, of *cancer of the lip* there were 39 cases, but only 19 were given radium treatment. Of these, there was complete disappearance of the tumors in 4 and improvement in 4 others. The remaining 11 cases obtained but little benefit. *Cancer of the palate*, 8 cases; *cancer of the tonsil*, 7 cases; *cancer of buccal mucosa*, 5 cases. Of these 20 cases in all, 12 had radium treatment. No case showed anything more than temporary and symptomatic benefit, and the disease progressed with little or no delay to a fatal termination. *Cancer of lower jaw*, 36 cases; *cancer of antrum and upper jaw*, 11 cases. Of these 47 cases in all, 28 had one or more radium treatments. The upper jaw cases were all refractory and the disease was not materially influenced by radium. Six of the lower jaw cases had definite benefit from radium, and in one case, a local recurrence after operation, the disease was destroyed and no further recurrence has appeared in 20 months. *Cancer of tongue and floor of mouth*, 33 cases, 22 of which were given radium treatment. Definite improvement took place in 3 cases, but the disease was not eradicated. *Leucoplakia buccalis*, 8 cases, 4 being treated by radium with a certain amount of success. It is unquestionable that radium employed in sufficient strength can cause a disappearance of the milky mucosa, but only by an actual caustic action. ED.

324

Ludwig's Angina. HALPHEN, *Presse Medicale*, Jan. 7, 1918.

Halphen reports a case of phlegmonous inflammation of the floor of the mouth mistaken for Ludwig's angina and in which recovery was obtained after drainage through the mylohyoid muscle and removal of the wisdom tooth. The latter had been the starting point of the infection. Osteoperiostitis of dental origin is often erroneously labeled adenitis or adenophelegmon. The teeth having no lymph canaliculi, the infection, unless a lesion of the mucous membrane exists, always travels from the dental pulp to the bone, thence to the periosteum and the cervicular cellular tissue, forming what Sebileau has termed a periperiostitis. Removal of the tooth is generally sufficient to overcome this condition. True Ludwig's angina, which is rare, is characterized especially by the gravity of the general symptoms, the patient succumbing even before pus has collected. It is thus notably different from edema, phlegmonous inflammations, and abscesses of the floor of the mouth, rather frequently met with and amenable to drainage, a well marked collection of pus, always with a putrid odor, being evacuated. In Ludwig's angina the muscles are found sphacelated. Points of resemblance consist of the almost exclusively anærobic bacterial flora, analogous to that of pulpitis and dental caries, and the characteristic situation of the disease process. Ludwig's angina is actually a misnomer, the disease having been discovered by Gensoul five years before Ludwig. The condition is merely a hypertoxic form of the gangrenous phlegmons involving the floor of the mouth, just as massive gangrene may set in in severe wounds of the extremities and in fulminating appendicitis. In involvements of the floor of the mouth general anesthesia nearly always leads to syncope, sometimes fatal, and should be replaced by local anesthesia or anesthesia by intercricothyroid laryngotomy.

363

Retropharyngeal Abscess. C. C. Rush, *Jour. A. M. A.*, July 20, 1918.

Rush says that retropharyngeal abscess is imperfectly understood by physicians and a failure of diagnosis may be most unfortunate. He reports a case of the necropsy of a negro baby in which death occurred undoubtedly from strangulation by an abscess of this sort unrecognized by the physician or whoever treated it. There was no history of the case. The body, being unclaimed, became the property of the state anatomical board. He describes the anatomic conditions which favor the formation of such an abscess that has its freest extension in the loose retropharyngeal fascial space. The sources of infection are usually classed under four headings: 1. Caries of the upper cervical vertebræ, usually tuberculous. This may burrow laterally into various places, but occasionally the pus may burrow forward in the midline of the pharynx. 2. Those due to an otitis media. The pus probably follows the eustachian tube along the tensor tympani muscle to terminate behind the prevertebral fascia. 3. Those due to an extension inward of a carotid abscess. 4. Those due to infection of the lymph nodes of the retropharyngeal space. As this space is composed of loose connective tissue behind the esophagus, the unopened abscess can follow a course of slight resistance downward into the thorax. Such abscesses should be opened in the midline while the head is held low to allow the contents to flow out of the mouth.

399

Sarcoma of Ethmoid. A. V. Moschcowitz, *Trans. New York Surg. Soc.*, Jan. 23, 1918.

Case 1. A girl of 17. Sole complaint on admission was exophthalmos of left eye, which was first noticed eight months before and which has gradually increased. Left eye protruded in an antero-posterior direction; slight limitation of motion on external and internal rotation; diplopia on looking to left; marked resistance to backward pressure of eyeball. Operation: External operation, a quadrilateral flap involving the left nasal bone and nasal process of superior maxilla being sawed out and attached by hinge of periosteum along its external margin. The eye being now held out of the way, by retracting it in an outward and downward direction, exposing the mesial and posterior aspects of orbit, a tumor of bony hardness (osteosarcoma), situated behind eyeball, exposed. It was the size of a hazel nut and attached to the os planum of ethmoid. Excised in toto by means of a chisel. Remainder of ethmoid cells of left side, in fact, the entire inner wall of orbit, also excised. Outcome good, no recurrence at 16 months after operation; the only symptom remaining being a moderate degree of diplopia.

Case 2. A boy of 7; illness began seven months before coming under observation; there is definite history of the boy having been struck over the right eye, after which trauma the upper lid began to droop. Diagnosis of orbital tumor made and two operations for its removal performed. Patient also received radium and X-ray treatment. Great pain in the eye, which is totally blind since one week. Ophthalmoscopic examination showed: high degree of exophthalmos, keratitis with lagophthalmos, hypopium, marked venous congestion of eyelids. Diagnosis of retro-orbital carcoma made. Operation: Short transverse incision at inner and outer commissure of eye. Both lids dissected free and their conjunctive extirpated. Periosteum all around orbital margin incised and elevated from entire orbit so that when divided in depth of orbit with scissors entire contents could be removed en masse. That part of inner wall of orbit formed by ethmoid involved in new growth and was extirpated. Specimen removed showed it to be composed of eye and optic nerve surrounded by orbital fat and also a large vascular neoplasm arising by a very broad base from the periosteum covering the ethmoid bone. Microscopical diagnosis: Round cell sarcoma. Outcome: Boy in splendid condition a year after operation, with no trace of slightest recurrence.

403

Maxillary Antrum in Mastoiditis. H. BODKIN, *Jour. Laryngol., Rhinol. and Otol.*, July, 1918.

Observations on fifty cases of mastoiditis in reference to the condition of the antrum of Highmore. It is generally accepted that a healthy antrum is sterile. This investigation tended to show that in cases of otorrhea the maxillary antrum is seldom so, but particularly in chronic cases, is almost invariably infected, even though this has not proceeded to an obvious empyema of the sinus. Similar observations on the maxillary antrum in cases of otitis media that have not come to operation show much the same results.

417

Multiple Osteoma of Nasal Accessory Sinuses. W. L. CULBERT, *New York State Jour. Med.*, Dec., 1918.

Culbert cites a case of multiple eburnated osteoma involving the frontals, ethmoid, right orbit, middle and superior turbinates and cristi galli, and protruding into the cranial cavity. As this osteoma was so large and involved so many sinuses, it was impossible to remove it as a whole, so that no exact size, shape, measurements, nor weight could be obtained; consequently, the size must be determined as far as possible by measurements of the shadows in the roentgenograms. In the frontal sinuses and the right orbit, this osteoma was one solid, continuous growth; but in the ethmoid region, it was composed of several nuggets, some of whose faces articulated perfectly. They resembled the tight overlapping of peanuts in a shell. In the operation, the result of this articulation was that when a part of one face was bitten off, the combination was unlocked with liberation of the remainder of that portion. These peculiarities of growth seem proof to the author that this multiple osteoma had several foci, which were, possibly, the frontal sinus, the junction of the frontal and ethmoid, the ethmoid, and the turbinates, and that all these different simultaneous growths were finally jammed and molded together. This growth covered a period of at least ten years. Although at necropsy an abscess was found in each frontal lobe, no sign or symptom referable to them had presented during the patient's life, with the possible exception of the last few days.

420

End-Results of the Treatment of Inflammation of the Nasal Accessory Sinuses. L. W. DEAN, *Jour. Iowa State Med. Soc.*, March, 1918.

There are certain diseased conditions which have a decided bearing upon the end-results in all kinds of sinusitis. Sinusitis is more common in tubercular patients than in healthy individuals. An ordinary acute sinusitis will be exceedingly difficult to eradicate. A chronic sinusitis will probably not give a good result. The trouble is not due to the tubercle bacillus, but to the streptococcus, staphylococcus, etc. In no class of cases are results more disappointing than in individuals with a pulmonary tuberculosis. The effect of syphilis upon the end-result of the treatment of sinusitis is a very bad one. In spite of the most prolonged and intensive syphilitic treatment, cases of sinusitis in syphilitic patients will not do well. Not only will the discharge continue from well-drained sinuses, but there will be an intensive crust formation that is exceedingly disagreeable and almost impossible to combat. Ozena and atrophic rhinitis certainly are important agents in the production of a bad result in the treatment of sinusitis, regardless of the etiological factor of the former conditions. Change of climate has much to do with the successful treatment of sinusitis. In chronic cases where the discharge disappears in the summer and re-appears in the winter the result is dependent upon a change of climate. In maxillary and frontal sinusitis the end-result is certainly dependent upon the pathological changes in the sinus, aside from the removal of the cause of infection. Owing to changes in the mucous membrane the return to normal is prevented. Improvement will

take place up to a certain point and then cease. In ethmoiditis if the inner table of the skull is involved the end-result is always bad. In some cases after operation a few cells will be left which continue the suppurative process. In isolated sphenoiditis the end-result should always be good unless there is an osteomyelitis of the sphenoid bone. ED.

453

Crossed Aphasia. E. BRAMWELL, *Edinburgh Med. Jour.*, April, 1918.

In the vast majority of cases of "crossed" aphasia the speech defect is temporary and evanescent. Cases of temporary "crossed" aphasia are easily enough explained if it is granted that the cortical centers (cortical speech area) in the "non-leading" hemisphere corresponding to the speech centers or area in the "leading" hemisphere of the brain are possessed of some sort of speech function which is usually carried on in conjunction with, and in subordination to, the function of the speech centers or area in the right or "leading" side. Cases of persistent "crossed" aphasia seem to occur in left-handed persons, very exceptionally in right-handed persons.

A man of 58, suffering from a tumor of the right cerebral hemisphere involving the motor area and speech centers, or the subcortex below these centers. Complete aphasia and left-sided hemiplegia. The patient from birth had been strongly left-handed, but he had been taught to write with the right hand. None of his relations had been left-handed. The patient was perfectly conscious, but markedly aphasic (complete motor aphasia, marked word-deafness, apparently complete word-blindness and agraphia). No paralysis of right hand, which he was able to use for ordinary manipulations, but not for writing.

Post-mortem showed a tumor situated in the right hemisphere of the brain, which had apparently commenced in the subcortical white matter of the temporo-sphenoidal lobe and had destroyed the whole of the speech area (cortex of second and third frontal, first and second upper temporal convolutions, and the angular gyrus on right side).

The importance of this case is that a man who was strongly left-handed from birth and who had been in the habit of writing only with the right hand, as a result of a large tumor of the right cerebral hemisphere, became affected with left-sided hemiplegia and complete motor and censory aphasia and that although there was no paralysis of the right hand, he was affected with marked agraphia. The case seems to show that in some left-handed persons who have been taught to write with the right hand, and only in the habit of writing with the right hand, the stimulus for the act of writing, which ultimately reaches and sets in action the motor centers for the right hand in the left hemisphere of the brain, *has its origin in a sensory center or centers on the right or "driving" or "leading" side of the brain.*

496

Paralysis of Recurrent Laryngeal Nerve Associated with Mitral Stenosis. G. E. BROWN AND B. E. HEMPSTEAD, *Jour. A. M. A.*, Jan. 5, 1918.

The authors report a case in a woman, 35 years old, in which, associated with a mitral stenosis, there was a temporary paralysis of the left recurrent nerve during a period of mild decompensation. Under appropriate treatment, the left auricle decreased in size, and this reduction in the size of the chamber evidently released a pressure on the left recurrent nerve with restoration of its function. The case illustrates the importance of a rigid investigation of every case of left laryngeal paralysis to rule out its more common causes, as no other etiology offers a better chance of relief than this particular type.

510

Treatment of Laryngeal Tuberculosis. J. DWORETZKY. *Long Island Med. Jour.*, May, 1918.

The author makes the following recommendations: (1) The prophylactic treatment of laryngeal tuberculosis should be carried out with as

much care as the other phases of the treatment. To prevent tuberculosis of the larynx, patients are advised to always breathe through the nose, to refrain from abusing the voice (shouting, singing), to cough as little as possible, and to abstain from the use of tobacco and alcohol. (2) The pulmonary condition is generally the deciding factor, and hence the fallacy of treating the larynx and disregarding the lungs. (3) The solution of iodine and iodite of potash in glycerine is of much benefit when used locally, the strength to be increased with the increased process of fibrosis. (4) Epiglottidectomy often yields surprising results, and should be performed whenever indicated. (5) Laryngeal tuberculosis, when secondary to tuberculosis of the lungs, is chiefly a medical problem. When the lesion is localized or troublesome, and where there seems to be some tendency of fibrosis, surgical interference is indicated.

518

War Injuries of the Larynx. W. D. HARMER. *Lancet*, June 15, 1918.

Investigations have been carried out by Harmer and others on 245 patients. It has been noted that wounds of the larynx are infinitely rarer than injuries to the jaws; that the entry wound may be situated in any part of the neck (jaw and chest rare) and is generally smaller than the exit injury; that the commonest place of entry is the anterior triangle of the neck, especially the region of the thyroid cartilage; that transverse wounds (61) are more common than oblique (24); that entry wounds in the middle line in front are very rare (8) and nexer occur posteriorly, doubtless because the spine is always involved with fatal results; that the track of the missile may be horizontal, from above downward on occasionally from below upward; that the lower jaw may be struck first; that injuries of the larynx between the level of the vocal cords and the cricoid are the most serious; that tracheal wounds are rare (12); that the pharynx or esophagus is often included; that extralaryngeal wounds are very common on account of the mobility of the air passages, the missile often passing obliquely by the side of the thyroid cartilage or transversely behind the larynx without penetrating into its cavity.

In many of the cases examined the classical symptoms were remarkable by their absence. Although missiles had undoubtedly perforated the air passages, the patients declared that very little trouble had been experienced. Cough, dyspnea, blood spitting, dysphagia, and later, bruising edema, or inflammation may never occur. In general, however, the voice is immediately lost. Cough supervenes for a time. Hemoptysis (25 cases) is common and may be severe, statements being made by the patients that they had lost "at least two quarts of blood" after being wounded. Severe bleeding may be due to injury of the cartoid arteries (3) or internal jugular vein (2). It may also originate from the mucosa of the air passages without injury to any large vessel. Hemorrhage may continue for a few minutes or for long periods, such as two to seven days. Recurrent and secondary hemorrhages are rare at the base. Dysphagia (29 cases) is common, but generally of a transient nature for a day or two, and is caused more often by general soreness of the tissues than by obstructive inflammation in the gullet. Even after severe wounds involving the food passages there may be no dysphagia. Thus, a bullet which passed through the pharynx behind the larynx is said to have caused no dyspnea, dysphagia, or hemoptysis. Dyspnea (28 cases, tracheotomy in 18) seems very variable, and is often absent even in severe wounds. It may, however, develop unexpectedly after apparently simple injuries and at almost any period.

In two-thirds of the gunshot injuries of the larynx that survive for more than a week recovery is complete, and no ill-effects are produced beyond alteration of the voice. A small proportion of the cases of abductor paralysis recover. In a small number of patients total paralysis supervenes. Although the majority of larynx wounds recover after a time, one-third of the patients are less fortunate, and in battle many lives are undoubtedly lost owing to wounds of the neck and larynx. Even the

survivors may be crippled by complications, such as paralysis of the brachial plexus, bronchitis, loss of voice, and injury to health. Harmer says that considering that the uniform of a soldier at the front includes a collar reaching to the jaw, it should be a simple matter to insert in it a band of steel which would have the same effect as a helmet.

551

Hemiplegia of the Larynx. E. DE MORAES and C. FRAGA, *Brazil-Medico*, April 13, 1918.

The man presented a typical example of what is known as Jackson's syndrome. On waking one morning recently he found swallowing and speaking difficult, and the left arm was weak so he could scarcely lift it. The symptoms were those from complete paralysis of the left side of the larynx, similar to what has been published as the result of a shrapnel ball in the region. As the patient was known to be syphilitic, specific treatment was applied on the assumption of some syphilitic lesion in the bone nearby, and the prompt restoration to practically normal conditions confirmed the correctness of this surmise.

562

Laryngovestibulitis. A. ROBIN and J. RENAUT, *Bull. de l'Acad. de Med. de Paris*, Jan. 8, 1918.

Robin and Renaut apply this term to a common form of infectious sore throat in which the sputum is difficult to expel and gives the impression of a foreign body impacted in the vestibule of the larynx, at each breath tickling the epiglottis, and including a guttural spasmodic cough with violent efforts at expectoration, sometimes concluding with a sneeze which dislodges the sputum. The glands in the portion of the larynx above the inferior vocal cords are involved in the inflammatory process. They are vascularized like the salivary glands, and their outlets are in an area abounding in intra-epithelial nerve terminals and hence peculiarly liable to start reflexes. They have studied these glands on the dog, and emphasize the intense phagocytic action displayed by the cells in normal conditions. Gargling does not reach the seat of this gland laryngovestibulitis, so they treat it with a spray night and morning and after lunch and dinner. The fluid which meets the various conditions which they describe in detail is a mixture of 25 gm. sodium salicylate; 5 gm. antipyrin; 80 gm. glycerin and 15 gm. each of cherry laurel water and orange flower water, with 1 liter distilled water. This spray applied perseveringly has cured in from three to four weeks even the most inveterate and chronic trouble of the kind.

599

Roentgenological Diagnosis of Primary Carcinoma of the Lung. F. B. MCMAHON and R. D. CARMAN, *American Jour. Med. Sciences*, Jan., 1918.

The authors describe three main types of primary carcinoma of the lungs which prevent characteristic gross pathological appearances: the infiltrative, the miliary, and the mixed. The Roentgen examination and the stereoscopic study of roentgenograms will early point to a pulmonary lesion and its probable nature. The areas of increased density found in primary pulmonary carcinoma are usually quite typical and can be differentiated from areas of increased density caused by other diseases in the thorax, including inflammatory changes and neoplasms, both primary and metastatic. A careful correlation of the Roentgen findings with the clinical history and the physical and laboratory findings usually makes a clinical and differential diagnosis possible.

604

Tracheitis. J. MOLLER, *Ugeskrift f. Laeger*, June 6, 1918.

Moller remarks that most cases of tracheitis are mistakenly diagnosed as "pharyngitis and nervous cough." In all his experience he has never encountered a case of a purely nervous cough; some lesion could always be discovered by looking for it. The tracheitis induces coughing and hawking, mostly mornings, the rest of the day being free from cough; except in the severe cases. The characteristic cough with acute tracheitis comes on at night when the patient gets warm in bed, and keeps up for half hour or hour until a small amount of sputum is coughed up. This may return several times during the night and again in the morning. The cough may be spasmodic, so that in children it may be difficult to distinguish between tracheitis and whooping cough. In the severer cases, the cough returns periodically as a small amount of sputum accumulates. Hoarseness is another symptom of tracheitis. The accumulation of phlegm on the vocal cords is the cause of the inability of certain singers to sing in the morning, but respiration is not impeded with pure tracheitis. In treatment, the main thing, he declares, is change of climate, the mountains, a sea voyage, but if this is impracticable, medication should aim to promote expectoration or check the irritation in the throat, with inhalation of a fine spray of some solution of ethereal oils, eucalyptus or balsamics. Painting the throat with iodin or mercuric chlorid or silver nitrate is of not the slightest use when the trouble is in the trachea. Warm drinks may be useful and cautious exercising of the speaking and singing voice may aid in the cure. Often a little exercise in singing may conquer the last traces of the tracheitis.

625

Esophageal Diverticula. E. S. JUDD, *Surg. Gyn. and Obstet.*, Aug., 1918.

Esophageal diverticula are divided into two types—traction and pressure diverticula. In traction diverticula the distortion is usually due to a pulling force acting from outside the esophagus, and generally occurs at the point where the esophagus crosses the left bronchus. It is most often due to the contraction of a cicatrix formed by the healing of a suppurating lymph gland. They usually produce no symptoms. Pressure diverticula do produce symptoms, and the first symptoms are dryness in the throat, and a scratchy feeling as if a small foreign body were present. There is difficulty in swallowing. The author's article takes up a consideration of 35 cases of pressure diverticula, and difficulty in swallowing was present in all of them; 30 out of the 35 patients complained of regurgitation of food. In 12 of the cases there was a gurgling noise in the throat. A feeling of pressure, symptoms of stricture and choking sensations develop. The symptoms of esophageal diverticula rarely present themselves before patients are 45 years of age. The average age in the author's series of 35 patients was 54 years, and the average duration of symptoms was 5½ years.

Diagnosis can practically always be made by means of an x-ray picture taken after swallowing a bismuth mixture. The x-ray and the esophagoscope make the diagnosis certain. The history itself always gives a good clue to the diagnosis.

Treatment consists in either obliterating or removing the sac, several different methods having been devised for this purpose. Bevan recently described the method of infolding the diverticulum by means of a series of pursestring sutures. By this method, the sac itself is not removed, but is gradually folded up and turned into lumen of the esophagus, where it either atrophies or is cast off. This operation has a great advantage of eliminating every possibility of infection, as the mucous membrane is not opened, the element of infection being very important in these cases.

635

Treatment of Stenosis of the Esophagus. SENCERT, *Bull. de l'Acad. de Med. de Paris*, March 12, 1918.

Sencert asserts that the chief obstacles to the passage of sounds in tight esophageal strictures are met with at the upper opening of the stricture and in its interior. In the former situation the obstacles are, the narrowness of the orifice, its eccentricity, and the presence of a prestrictural dilatation presenting diverticular false openings which may be confused with the true opening. Obstacles within the stricture itself consist in the multiplicity of the strictured points and the irregularity of the lumen, which may be sinuous, oblique, or deflected bayonet fashion. The only way to circumvent these obstacles is to attack the stricture from below upward and to abandon the idea of carrying out repeated catheterization through it, the progressive dilatation being effected only along a permanent conducting strand passed through the stenosis. Gastrostomy is the first step in the procedure. Then, apart from exceptional cases in which a leaden shot and silk thread can be gotten through from above, the thread is passed by retrograde catheterization of the esophagus under visual control either through direct gastroscopy or retrograde esophagoscopy. The third step consists in continuous dilatation, carried out by the passage of rubber tubes of progressively increasing diameter, these, in turn, being fixed to the gastric end of the esophageal thread and drawn through the stenosis with the aid of traction on the oral end of the thread. The first rubber tube pulls after it a second silk thread which on the next day will draw through a second rubber tube of larger calibre, and so on until the necessary dilatation of the stenoic channel has been secured. In six weeks to two months the most severe strictures can be mastered by this method. Sencert had carried it out with success in fourteen cases.

643

Treatment of Asthma by Peptone. A. G. AULD, *British Med. Jour.*, July 20, 1918.

Auld has had good results in the treatment of asthma from the intravenous injection of peptone. He dissolves the peptone as far as possible in normal saline (made up to three-quarters volume) by slightly agitating and warming at 37 C. Then add 1 mil of a 2 per cent solution of sodium carbonate for each ⅓ gm. (5 grains) peptone. This insures the requisite degree of fineness of the suspended portion. Make up to volume with normal saline, adding 0.25 per cent phenol as a preservative. Care is to be taken in adding the alkali as any excess may cause racemization of the peptone, rendering it inactive. Peptone No. 2 is similarly prepared, the alkali being employed in this case to neutralize its acidity.

As regards the dosage, it is only possible to make a general statement, as variations may be necessary. When the main attacks, whether occurring singly or more or less broken up, occur at fairly pronounced intervals, a limited number of measured doses is usually sufficient. Should slight attacks persist, the dose may require to be increased. A feeling of chilliness and discomfort indicates that the limits have been overstepped. On the other hand, the dosage must be reduced when the attacks present great frequency and irregularity. In such the anti-anaphylactic mechanism is weak, or, in other words, the immunity reserve is small and will only tolerate gentle stimulation. Experience alone can enable one to decide the dosage, according to the symptoms and the progress of the case; also, patients differ very considerably in their response to peptone. Generally speaking, the initial dose in all cases may be fixed at 3 decimils (5 m.); increase by 2 decimils (roughly 3 m.) every fifth day, until six injections have been given. Three or four injections are to be given, employing in each the same dose as that given in the sixth injection. To this rule, however, there are exceptions. No reaction appreciable by the patient occurs. At any time during the course modifications in the dosage may be called for, as already indicated. In the case of children

but a very slight reduction in the dose is necessary. No injection is to be given during attacks, and, when the latter occur at long intervals, begin the treatment about three weeks before one is expected. In all cases the diet should be low, and easily digested.

645

Constitutional Hypersusceptibility and Asthma. A. DE BESCHE, *Norsk Mag. f. Laegevidensk*, April, 1918.

De Besche reports the case of a physician of 30 who developed an alarming condition for an hour or so after a preventive injection of diphtheria antitoxin. This was a year or so before attention had been called to the danger of symptoms suggesting anaphylactic shock with injection of antitoxin when there is constitutional hypersensitiveness to horse serum and horse emanations. The physician knew that, from childhood, when he had anything to do with horses symptoms resembling those of hay-fever developed, with asthma. De Besche has made a special study of this idiosyncrasy to horses, and reports the details of eleven cases and one in which the idiosyncrasy was to cats. In eighteen other cases of asthma, no connection with horses or other animals could be detected. An idiosyncrasy of this kind can be rendered evident by touching the skin of a horse with the finger and then placing the finger on the conjunctiva of the patient's eyeball. In all cases of horse asthma, pronounced redness, lacrimation and slight edema follow, and sometimes sneezing. There is no appreciable reaction in the absence of this idiosyncrasy. The reaction is also instructive, but is less constant when a drop of the horse serum is applied to a scarified area, as for vaccination against smallpox. A blister forms. He remarks that it might be advisable to apply these eyeball and scarification tests before injecting antitoxin in persons subject to asthma or hay-fever, and thus be able to exclude an idiosyncrasy. In his total of twelve cases of horse asthma, in some the idiosyncrasy was to horses alone; in others also to cows, dogs and goats. Two had also hay-fever, and a tendency to hay-fever or asthma was common in other members of the family in several cases. In some of the horse-asthma cases the manifestations of the idiosyncrasy were accompanied by abdominal pain and vomiting or diarrhea. The physician first mentioned had a severe attack of the horse asthma once after dinner on a day when there had not been any connection with horses. But the precipitin test, applied to the sausages from which he had eaten, revealed horse meat in them. One of the horse-asthma patients developed typical attacks also after eating strawberries. De Besche mentions that the attacks in his cases were exactly like those described by Willey, Bacon and Wright in *The Journal*, 1908-1909.

649

Asthma in Children. J. G. DEL DIESTRO, *Arch. Espan. de Pediatria*, Oct., 1918.

Diestro reviews the features which differentiate asthma in children from the attacks of suffocation with the exudative diathesis and spasmophilia, which resemble but are not true asthma. He describes four cases of the latter in children from 8 months to 9 years old, previously apparently healthy. Two of these children were of the same family, and the attacks came on at the age of 6, when the children were taken from Madrid to a northern summer resort. The mother was subject to similar attacks, and the characteristic crystals were found in the sputum of all three. The infant's dyspnea and cyanosis were extreme and a gouty taint was evident in this family. In all the children the attacks grew less severe and less frequent, and the children seemed to outgrow the tendency in from two to four years. In one of the cases true asthma coincided with enlarged tuberculosis glands in the mediastinum, but the crystals confirmed the diagnosis. Infarcts in tuberculosis mediastinal glands induced in some other children attacks deceptively resembling true asthma, and improving under tuberculin treatment. One of the

children died of meningitis a year later. Children with the exudative diathesis may present recurring tracheobronchitis or attacks of asthma. Such children usually have noisy breathing, the mothers saying that it is the "noise of the phlegm." This is persisting, but the acute disturbances resembling asthma may alternate with skin manifestations. In one infant the eczema and the asthmatiform disturbances ebbed and waned alternately, unmodified by any measures, but finally disappearing, the child as it approached the age of 3 being in apparently good health. In another infant, 4 months old, the enlarged thymus induced cyanosis and tendency to suffocation suggesting asthma. At first they occurred only when the child was crying, but later they became almost continuous. The parents would not consent to operative measures, and the outcome is not known.

656

A Vaccine for the Treatment of Bronchial Asthma. J. M. HUTCHESON, and S. W. BUDD, *American Jour. Med. Sciences*, June, 1918.

The authors prepare their vaccine in the following manner: One c.c. of washed sputum is incubated in ten c.c. of broth, and one or two drops of guineapig serum for forty-eight hours. The culture is then standardized and killed by heat of 60° C. for a period of two hours. Further decomposition is prevented by adding carbolic acid until a one per cent solution results. This is cultured out to insure sterility of the suspension. The vaccine is then diluted with normal saline until each cubic centimetre of the suspension contains 500,000,000 to 1,000,000,000 organisms. The initial dose is five minims; each subsequent dose is increased by one minim up to a maximum of fifteen minims. This amount is not increased, though the treatment may be continued several weeks. The authors report the following results obtained in twenty cases of typical bronchial asthma. Complete relief in twelve after one to five injections. Longest period of freedom from symptoms, sixteen months; shortest, six weeks. Distinct improvement in five cases. No effect was observed in two patients, one an elderly man with emphysematous lungs and a history of asthma for over twenty years, the other a case in which asthma followed injury to the chest and the x-ray showed ununited fractures of several ribs. In one case the vaccine seemed to increase the intensity of the paroxysms; the explanation seemed to be that too long a time was allowed to lapse between injections. Injections in most cases were made twice a week, but the writers think that a shorter interval would prove more desirable.

657

Uric Acid Metabolism in Asthma and Rhinitis. A. DE KLEYN and W. S. VAN LEEUWEN, *Nederlandsch Tijdschr. voor Geneesk.*, Jan. 12, 1918.

De Kleyn and Van Leeuwen confirm the statements of others in regard to the changes in uric acid metabolisms just before, during and after an attack of asthma and attacks of vasomotor rhinitis. They tabulate the metabolic findings in twelve cases on a purin-free diet, and during and after a day on which 100 gm. each of meat and of kidney or sweetbreads had been ingested. In comparison with normal persons, the excretion of uric acid in the urine was of the same type as in gout. This suggested treatment on the same basis as for gout, reduction of the purins in the diet and antigout drugs. The effect was remarkable in some of the rhinitis cases, and some benefit was apparent in the asthma cases, but less pronounced. The significance of the abnormal conditions in respect to elimination of uric acid in their cases of asthma and vasomotor rhinitis was enhanced by the frequent discovery of metabolic diseases in other members of the families, especially gout. They urge others to inform them of cases of vasomotor rhinitis, asthma, gout and

hay-fever in one family, specifying whether the diagnosis of gout is based on metabolic research or on the gouty big toe. The outlook is encouraging for great relief and improvement in vasomotor rhinitis under abstention from purins, with calcium chlorid according to indications, and possibly other antigout drugs. Acid drinks and dishes should be avoided as well as the purins.

667

Asthma in Children. L. M. SPOLVERINI, *Pediatria*, Oct., 1918.

Spolverini is inclined to ascribe the tendency to asthma in children to deficient functioning on the part of the sympathetic system innervating the smaller bronchi. This paresis of these nerves allows the vagus nerve terminals, both in the motor and vegetative innervation, and also vagotony, although in reality the vagus is normal. This assumption is sustained by the favorable action of epinephrin in asthma, as this does not paralyze the vagus but merely stimulates its sympathetic antagonist. In his experience with nineteen cases of recurring asthma in children, from 6 months to 10 years old, he was impressed with the constant lymphatic status in all, as also the extremely irritable condition of the nerve terminals, both in the motor and vegetative innervation, and also the nervousness and uricacidemia noted almost constantly in one or both parents. He was further impressed with the benefit under suprarenal treatment, even outside of the attacks of asthma, and also under treatment with iodin and calcium preparations and mineral waters of the Fiuggi and Montecatini types. These children, more than any others, benefit from a return to nature. During the attacks of asthma, 1.5 gm. calcium bromid proved a valuable adjuvant to epinephrin. He gave both by the mouth, not venturing to give the epinephrin by the vein to children. The loss of normal balance in the endocrine system, which seems to be responsible for this asthma-producing neurosis, might be instructively studied on children, especially the assumed hyperproduction of hormones from the lymphatic glands, and the deficient suprarenal functioning.

670

Treatment of Bronchial Asthma with Proteins. I. C. WALKER, *Archives Internal Medicine*, Oct., 1918.

The results of the treatment of 100 sensitive patients with the proteins to which they were sensitive are recorded by Walker. Of forty-eight patients who were sensitive to and treated with horse dandruff proteins, 63 per cent. were relieved of asthma, 10 per cent. have had too little treatment to warrant a prognosis, and 20 per cent. were relieved by vaccines or by omitting foods to which they were sensitive; in the remaining 7 per cent. of this group treatment was a failure. Of four patients who were sensitive to and treated with cat hair protein, three were relieved of asthma, and the other patient, who was equally sensitive to the horse dandruff proteins, was relieved by treatment with them. Of thirty patients who were sensitive to the cereal grains, 74 per cent. were relieved by the omission of these from the diet, and 7 per cent. were relieved by vaccines; of the 26 per cent. who were not relieved by the omission of cereals from the diet, in 16 per cent. there was no evidence that cereals played any part in the cause of asthma, but the presence of eczema may account for these positive skin tests. Of thirty-three patients who gave positive skin tests to other foods, 50 per cent. were relieved by the omission of these from the diet, 30 per cent. more were relieved of asthma, but as the latter were also sensitive to other proteins which were also omitted from the diet at the same time, it is difficult to give credit to any special protein. The remaining 20 per cent. were not relieved of asthma, but the presence of eczema and uticaria and an acquired distaste for certain foods probably explains the idiosyncrasy. Therefore, of the total number of 100 sensitive individual patients who were treated as indicated by the positive skin tests, in 75 per cent. there was relief from asthma, in 14 per cent., although there

was no relief from asthma, there was a definite idiosyncrasy substantiating the positive skin test; but in 11 per cent. the positive skin test had no apparent bearing on the patient's condition, although in only half of these, or 5 per cent., was there evidence that the skin test gave a false result. Since the 11 per cent. includes 7 per cent. who were relieved by vaccines, a total of 82 per cent. of the sensitive patients were relieved from asthma.

689

Interesting Esophagoscopic and Bronchoscopic Casts. W. L. SIMPSON, *Memphis Med. Monthly*, Jan., 1918.

The author gives a short description of 12 cases of foreign bodies in the esophagus and 12 cases of foreign bodies in the bronchi. The articles removed from the esophagus were as follows, the age of the patient being in parenthesis: Metallic pay check (3 years), fish bone (35 years), pin in stomach (young woman, age not given). Patient vomited and threw the pin into the esophageal tube, where it was grasped and removed, five cent piece (2½ years), open safety-pin in throat (8 months), piece of meat (75 years), gold bug (8 months), five cent piece (2 years), piece of meat (30 years), piece of meat (70 years), coat button (2 years).

The articles removed from the air passages were the following, the patient's ages being indicated in parenthesis: Persimmon seed in bronchus (7 years), cockle burr in larynx (12 years), papilloma of larynx (28 months), peanut kernel in left bronchus (2 years), watermelon seed in left bronchus (3 years), peanut kernel in left second bifurcation of bronchus (21 months), fish bone in larynx (65 years), bone in trachea (4 years), tooth in bronchus (45 years), fish bone in larynx (8 years), watermelon seed in bronchus (2 years), corn kernel in right bronchus (1½ years). All of the cases made good recoveries. ED.

730

Active Immunization of Infants Against Diphtheria. A. ZINGHER, *American Jour. Dis. of Children*, Aug., 1918.

Zingher would have all infants below 12, and if possible below 18 months of age, actively immunized with three doses, each 10 c.c. of toxin-antitoxin. These injections should be given irrespective of the Schick test the infants may show at the time of immunization. The injections are given subcutaneously in the arm or below the angle of the scapula, and repeated every seven days. The toxin-antitoxin is well tolerated by young infants, and for that reason the dose advised is the same as that given to older children. The relatively larger dose of toxin-antitoxin will of course also give rise to a better immunizing response. All children over 18 months of age, as well as all youths and adults, should be tested with the Schick reaction first, and only those giving a positive reaction immunized with toxin-antitoxin. Three injections, each 10 c.c., are given subcutaneously, one week apart. In infants below 18 months of age the Schick test is not a necessary part of the immunization, since all the infants should be directly immunized. The toxin-antitoxin mixture should be prepared in a reliable laboratory and carefully tested for potency in the guinea-pig before it is sent out for use. The mixture used should be slightly toxic and should represent about 85 per cent. of a lethal plus to each unit of antitoxin. The active immunization against diphtheria should be carried out first of all by the private physicians in the different homes, where a majority of the infants can be reached. In larger centers of population the milk stations, day nurseries, children's dispensaries, infant and orphan asylums furnish large groups of children suitable for immunization. The children of preschool age found in kindergartens and those of school age should be tested first with the Schick reaction, and those giving a positive test actively immunized. Adults, especially those frequently or constantly exposed to diphtheria, such as physicians, nurses, hospital orderlies and patients in contagious disease hospitals, should also be immunized.

766

Principles of Thyroid Surgery. C. H. MAYO, *Jour. A. M. A.*, Aug. 31, 1918.

The thyroid undoubtedly is one of the most important glands in the body, and while a complete knowledge of its activities is still lacking, the work of Plummer and Kendall, through investigations into the physiologic action of its secretion, is such as to nearly accomplish the realization of its fundamental effect on life. Kendall has been able to separate the compound of the thyroid containing iodine from the balance of the gland. This is accomplished by destroying the proteins of the thyroid by means of boiling with a strong alkali, which does not decompose the iodine-containing compound, and, by suitable treatment, it can be separated as a pure crystalline substance containing 65 per cent. of iodine; its formula is $C_{11}H_{10}C_3Ni_3$. The compound contains an organic nucleus called indol, as well as oxygen. Investigation of the activity of the gland shows that the iodine is not directly involved in the functioninating of the substance but merely increases its power to react.

Plummer, from a clinical standpoint, in the observation of many thousands of cases of goiter, numerous cases of cretins and of myxœdematous patients, has shown that the rate at which energy is produced by the animal organism is controlled by the amount of thyroxin which is acting within the cells of that body. While not the only factor influencing the rate at which one lives, it probably has more to do than any other substance with the governing of the speed at which energy is produced in the body. Plummer shows the average basal metabolic rate of exophthalmic goiter patients at the time of coming under observation to be 52 per cent. above normal, and the average rate in those in whom ligations were done and who returned in three months to be plus 39 per cent. The average metabolic rate eighteen days after thyroidectomy is plus 19. Ligation probably causes the metabolic rate to drop approximately 20 per cent. Other factors being constant, the total energy output of the body varies with the amount of thyroxin in the tissues and the rate of excitation.

In persons under twenty-five years of age, small adenomata in the thyroid and the simple colloid goiters are only occasionally recommended for surgery. Later in life, the degenerations which occur in goiters of long standing, such as encapsulated adenomata and encapsulated colloid areas when the secretion has become reduced, may develop thyrotoxic conditions.

814

Importance of Early Diagnosis and Treatment of Middle Ear Diseases in Children. M. P. BOEBINGER, *New Orleans Med. and Surg. Jour.*, July, 1918.

The author emphasizes the necessity of examining the ears of infants and young children in all febrile affections. It is not before the fourth month that infants direct attention to the possibility of an auricular affection by rubbing the ear, putting its hands to the head, crying whenever the ear or its vicinity is touched, and even avoiding to lie on the affected side. Suppuration of the middle ear occurs less frequently in breast-fed than in bottle-fed infants. Owing to congenital cracks of the osseous, facial canal, there is greater danger in infantile otitis than in adult otitis of peripheral paralysis of the facial nerve, but such paralysis is only slight and temporary. An extremely characteristic infantile otitis is the sudden onset of fever, the temperature reaching the highest possible degree in the first few days. A peculiarity of infantile otitis consists in the great danger of mastoid infection, which is favored by the large antrum being loosely connected with the middle ear. These abscesses rapidly perforate outward, forming a subperiosteal mastoid abscess, the lateral wall of the antrum being a very thin osseous layer which often contains cartilaginous remnants in rachitic children.

824

The Attic of the Middle Ear; Its Suppurative Conditions OTTO T. FREER, *Illinois Med. Jour.*, April, 1918.

Dr. Freer describes the topographical anatomy of the attic and shows that while the mesotympanum forms a single, easily drained cavity that can be readily opened for drainage, the attic or epitympanum is subdivided into a number of compartments with easily blocked intercommunication with the mesotympanum, the pent-up pus being easily dammed back into the tympanic antrum and mastoid cells. Furthermore, instead of having merely the tympanic membrane for its external wall, as is the case with the mesotympanum, the attic (pars cupularis) has an outer wall of bone so that in order to escape into the external auditory meatus, pus confined in the attic must find its way underneath the lower border of this bony wall; that is, it must perforate the ligamentous attic floor, finally having to burst through the swollen membrana flascida above or through Prussack's space before it can discharge from the ear. Therefore, epitympanic perforations, instead of being merely punched out holes, as are perforations of the para tensa, are necessarily fistulous tracts with poor drainage and are situated high up above the region of the processus brevis.

Chronic attic suppuration occurs in two types: (1) cases with large perforation of the pars pensa; (2) cases with fistulous opening above the processus brevis. The first type recovery may often be brought about by washing upward into the attic from below with a vertical stream from an attic tube introduced through the perforation into the mesotympanum. In more obstinate cases, curetting will have to be done, followed by washing. After thoroughly drying the attic boric acid powder is conveyed into the attic by means of a swab. In the second type the fistulous tracts must be probed, followed by washing. Any visible polypi must be removed. The author suggests that ossiculectomy may be necessary in cases where washing and curettage prove ineffective, and if the hearing of the ear in question be nearly or quite lost.

826

Surgical Treatment and Cure of Suppurative Otitis Media Chronica in Childhood. J. B. HORGAN, *British Journal of Children's Diseases*, Jan.-Mar., 1918.

The author recommends first of all removal of adenoids and tonsils, and the nose, mouth and pharynx having been rendered as healthy as possible, our attention should then be directed toward the actual conditions prevailing in the middle ear. Polypi, if present, should be removed, and granulations cauterized with chromic or trichloracedic acid. As regards local treatment, the installation of warm drops of equal parts of hydrogen peroxide and 70 per cent. alcohol has given best results. Syringing with a warm alkaline or saline solution is only called for if the discharge is profuse or fetid. Cotton should not be worn in the ear in the absence of profuse discharge, as the drying and healing properties of air and light are of great importance in curing these anaerobic infections. If the ear still fails to respond to treatment, a cure may, in many cases, be obtained by curettement of the isthmus and external end of the Eustachian tube as described by Yankauer. The author employs general anesthesia, using Alexander's Eustachian curette. This procedure has enabled him to obtain a dry ear in about sixty per cent. of the selected cases in which it was tried. He advises that no ear in which the tympanic mastoid ostium of the tube is visible in the perforation should be subjected to a radical mastoid operation until this comparatively simple expedient has been given a trial.

832

Case of Cholesteatoma of the Middle Ear with Unusual Features. A. O. PFINGST, *Mississippi Valley Med. Jour.*, June, 1918.

This case was interesting first, because of the large cholesteatoma which had been present for a long time with very slight symptoms; second, the

presence of facial paralysis and its rapid disappearance after relief of pressure through mastoid operation and Nature's effort to perform the radical operation; third, the unusual complication of a double acute parotitis; fourth, the complication of erysipelas, and fifth, an intense pyorrheal alveolaris. Patient recovered.

856

Sensibility of Bone to Tuning Fork Vibrations. L. BARD, *Annales de Medecine*, Jan.-Feb., 1918.

Bard presents evidence to demonstrate that bone conduction of the vibrations of a tuning fork is more a matter of the sensibility of the bone than has heretofore been appreciated. The acoustic factor predominates at first and arrests attention, when the Weber test is applied to the ear, but as the tuning fork vibrations grow less intense, the tactile perception predominates, and persists after the acoustic has died out. The duration of the perception of the sonorous vibrations thus depends on the sensibility of the skull bones, and aural surgeons should revise their qualitative tests of the hearing, taking this fact into account. It naturally deprives the Schwabach test of all value, and the Gellé test is instructive only when the attention of the subject has been called to the necessity for distinguishing between the acoustic sensation, and the tactile sensation which the Gellè test does not modify. In numerous deafmutes and totally deaf persons, including one with cerebral neurofibromatosis, confirmed by necropsy, which had totally destroyed the auditory and vestibular nerves, Bard has found that the vibrations of the tuning fork placed on the skull are plainly perceived. By studying this on himself and on others with normal hearing he determined certain laws regulating conduction of vibrations in different bones throughout the skeleton, and the modifications induced by disease, especially by tabes.

879

Diagnostic Value of Nystagmus. A. L. GUTHRIE, *Jour. Oklahoma State Med. Assn.*, March, 1918.

Nystagmus is of frequent occurrence in multiple sclerosis, being one of a triad of symptoms which definitely identifies this disease. It is also found in syringomyelia in a sufficient number of cases to be considered a symptom of that disease. The most frequent cause for nystagmus is found in pathologic conditions of the labyrinth and vestibular nerve together with its intracranial connections. In circumscribed labyrinthitis there may or may not be spontaneous nystagmus. If present it will usually be rotary in character and may be to either side due to the fact that both labyrinths are still functioning. Rotation and caloric tests will be normal. Should the inflammation become diffuse the nystagmus will become more constant. In the serous form the pointing errors and falling tendencies are usually quite negligible, but if present they will be away from the side of the quick component. If the nystagmus is to the sound side the cold caloric to the sound ear will diminish the tendency to fall and correct the pointing error. If used on the diseased side the reaction will be negative. In acute suppurative labyrinthitis the functionating labyrinth is suddenly destroyed, leaving no part to react to the physiological tests. The nystagmus will be rotary—possibly rotary and horizontal—and always to the sound side. Caloric to the diseased side will be negative; to the sound side it will diminish the nystagmus and correct the falling and pointing errors which are usually pronounced and to the diseased side. Should intracranial complications occur the nystagmus may shift from the sound to the diseased side until the pathological process passes from the irritative stage to that of destruction of the vestibular nerve, when the nystagmus will return to the sound side. In meningitis the nystagmus is horizontal and strong and may be to either side. The caloric tests are positive on both sides, unless there is an associated labyrinthine

lesion, and have no influence on the pointing errors or falling tendencies, which are always towards the diseased side regardless of the direction of the nystagmus. In tumors of the cerebello-pontine angle spontaneous nystagmus is likely to be late in developing, but increasingly pronounced with the development of the tumor. There will be loss of vestibular irritability on the affected side due to an interruption of the nerve impulse along its way to the brain centers. In cerebellar tumors involving the cortex nystagmus may be an early symptom, but in deeper seated growths it is usually absent. That is, intra-cerebellar tumors rarely produce nystagmus; extra-cerebellar tumors usually produce nystagmus. In tumors involving the vestibular nerve of its intracranial connections, causing partial deafness, there is nystagmus which will be reduced by the caloric to the sound side. If there is complete deafness with evidence of intracranial pressure it may not be possible to induce nystagmus by syringing the sound ear with cold water due to diminished vestibular irritability.

883

Some Phases of the Diagnosis of Vertigo. Based on the Newer Ear Tests.

J. D. HEITGER, *Mississippi Valley Med. Jour.*, June, 1918.

The work of Cajal has shown that the fibers from the vestibular portion of the eighth nerve enter Deiters' nucleus and thence proceed to the cerebellum through the inferior cerebellar peduncle. According to Jones and Fisher these are the fibers from the horizontal canal and they claim further that the vertical canal fibers shunt Deiters' nucleus, passing to the inside and ascend into the pons and in some undetermined center undergo a branching which describe as a "Y," the vertigo fibers entering the cerebellum through the middle cerebellar peduncle, while the nystagmus fibers enter the posterior longitudinal bundle and are thence carried to the nuclei of the third and fourth cranial nerves. A similar Y-branching takes place in the horizontal canal fibers, one branch of the Y carrying the vertigo fibers through the inferior cerebellar peduncle to the cerebellum, and the other carrying the nystagmus fibers which enter the posterior longitudinal bundle and proceed to the third and fourth cranial nuclei. The vertigo fibers from the vertical and horizontal canals meet in the nuclei fastigii, emboliformis and globusus in the cerebellum and proceed together, decussating in the crura cerebri to the second temporal convolution of the opposite side.

Just as we maintain our equilibrium from three sources—ocular, kinesthetic and vestibular—so may we have three kinds of vertigo. In ocular vertigo the vertigo disappears when the eyes are closed. Kinesthetic vertigo is usually associated with progressive nervous disease. It is made worse on closure of the eyes. Vestibular vertigo is rotational in character. If abnormal responses are obtained on ear stimulation as regards nystagmus, past-pointing, vertigo and falling, we know we are dealing with a lesion of the vestibular apparatus either in the end organ, the eighth nerve or the intracranial pathways.

If any one of the responses are normally obtained the labyrinth and eighth nerve are eliminated because they must be intact to have permitted the transmission of any one normal response. If the responses are impaired but go through, it points to the labyrinth as the seat of the lesion. If no nystagmus results from the stimulation of the ear then a lesion must be present in the pathway from the ears to the eyes, the so-called vestibulo-ocular tract. Likewise if no vertigo results from stimulation we are dealing with a lesion from the ear to the cerebral cortex — vestibulo-cerebello-cerebral tract — because the vertigo fibers pass through the cerebellum from the ear en route to the cerebrum. If no vertigo occurs but a normal nystagmus does occur, then the tract from the ear to Deiters' nucleus is clear and the lesion exists between this nucleus and the cerebral cortex. Likewise, if we get a normal vertigo but no nystagmus the lesion is in the tract going to the eye muscle nuclei at a location beyond where the two pathways divide into their individual pathways.

If stimulation of the horizontal canals produces no nystagmus, but normal vertigo and past-pointing, the lesion is located between Deiters' nucleus and the posterior longitudinal bundle. If we get nystagmus but no vertigo or past-pointing the lesion is either in the inferior cerebellar peduncle of the same side or at a point beyond in the vestibulo-cerebello-cerebral tract.

If stimulation of the vertical canals produces no nystagmus but normal vertigo, past-pointing and falling, the lesion is located in the pons beween the un-named center where the nystagmus and vertigo fibers divide and the posterior longitudinal bundle. If still further back the lesion would involve both the nystagmus and vertigo fibers. If there is normal nystagmus but no vertigo, past-pointing or falling then the lesion is in the middle cerebellar peduncle or beyond at some point in the vestibulo-cerebello-cerebral tract.

908

Effect of High Explosives on the Ear. J. G. WILSON, *N. Y. Med. Jour.*, Feb. 23, 1918.

The cases of deafness due to war conditions could be divided into two main classes, one including all cases in which there had been a direct wound of the ear by a missile, and the other including those injured by the effects of an explosion without direct wound of the ear. There are certain normal limits to the capacity of this apparatus to withstand pressure changes, and pressure beyond the normal cause disturbances of hearing such as hyperacusis, hypoacusis, or total deafness. The effect of a high explosive is a great and sudden compression followed by an equally great decompression. This compression and decompression could amount to 10,000 kilograms a square meter. The men with symptoms of nerve deafness due to the effect of high explosives can be classified as those with true nerve deafness; those who had had nerve deafness, and who have a fixed idea that they cannot hear; and those who are malingerers. In the first class there are three groups of cases—in the first group the nerve deafness is associated with damage to the conducting mechanism, such as perforation of the tympanic membrane, hemorrhage into the middle ear, or infection of the middle ear. In the second group of cases there is no demonstrable lesion in the conducting mechanism, and in the third group there is destruction of the cochlea and semicircular canals or their nerves. In reference to the second group of cases in which there is no evidence of structural injury, this does not preclude the possibility of some microscopic damage to the structures of the internal ear. Investigations have been made on the effect of pistol shots on the internal ears of lower animals, and these have shown that there is a fairly constant lesion produced, the lesion being confined to the cochlea, and consisting in a collapse of the organ of Corti and the titling up of the mebrana tentoria against Reissner's membrane.

915

Hearing Test to Detect Malingering. J. F. CALLAGHAN, *Boton Med. and Surg. Jour.*, Aug. 15, 1918.

John F. Callaghan has evolved the following technique in order to determine whether there is actual deafness in cases suspected of malingering. The basis of his test is the fact that tuning forks vibrating with the same pitch and loudness one inch from each ear are heard in each ear, but if one fork is removed to a point three inches from, let us say, the left ear, this sound is lost and only the fork remaining one inch from the other ear is heard. If the latter fork is now removed six inches from the right ear, it will no longer be heard, but the left one will again become audible. Callaghan found that similar results were obtained if a tuning fork were placed against a rubber tubing and his experiments were first conducted with a stethoscope as tube. He now uses a seven-foot length of rubber tubing, hole 3/16 inch, wall of tubing 3/32 inch,

to either end of which is attached an aluminum funnel. The funnels are held to the ears, and about one inch away from them, by a simple attachment on the headrest of the examining chair, which permits of adjusting them to cover the ears without touching the patient. As the test is one of air conduction, it is important that no part of the apparatus comes into contact with the patient's person at any point. Callaghan found that tuning fork 256 C 1 was heard by the normal ear when placed against the tubing at any point up to 7½ feet from the ear; with a larger size tubing the fork is heard as far away as 30 feet. As a routine, however, he used the 3/16 inch, 3/32 tubing mentioned. The application of the test is as follows: The 7-foot tube is connected with one funnel which is placed about one inch from the right ear. The tuning fork vibrating is applied to the tubing about 6 inches from the ear and is then moved along the tube until no longer heard. The tube is then disconnected from the right funnel and attached to the left and the same procedure followed. After this the tube is attached to both funnels; the vibrating fork is applied to the tube one foot from the right ear and moved along the tube toward the left ear. If hearing is normal, the sound will be heard only in the right ear until it reaches a point about 3 to 3½ feet from the right ear, at which point it will be heard also in the left ear and will continue to be heard in both ears for a distance of about 4 to 6 inches in the middle of the tube; this 4 to 6 inches the author calls the "neutral" space. Beyond this, the sound is heard only in the left ear. Callaghan points out that whereas when the tube is attached only to one ear, as in the first part of the test, the sound is heard for 7 to 7½ feet, when attached to the two ears, it is heard only up to 3 or 3½ feet, because as the tuning fork passes through the neutral space from the right to the left ear, the sound is heard only in the latter ear. As these tests are done behind the patient's back, he does not know whether one or two tubes are being used or which ear is nearer the tuning fork, and it is easily possible to detect any misstatements he may make in regard to his hearing. An 8-foot tubing may be used and may be cut about 14 inches from one end and joined by a simple wooden coupling—such as a meat skewer cut to 2 inches in length and tapered at either end—or, preferably, a coupling of hard rubber tubing. This makes it possible to determine exactly which ear is hearing the sound, as the tube can easily be uncoupled and the fork touched to one end or the other. The degree of hearing can also be determined by this test, modified as follows: Two tubes are taken, each the length of the hearing in the good ear. Funnels are attached to both ears. The fork is touched to the end of the tube connected with the good ear and at exactly the same time a fork is touched to the other tube near the head and is run down that tube. As the fork is touched further away from the bad ear the patient will cease to hear it and if malingering, will then admit hearing for the first time. This point will be the measure of the distance he hears with the bad ear. Callaghan's test can be applied for bone conduction by the use of lugs, as the vibrations transmited along the tubing are easily transmitted through lugs to the bony parts in the region of the ear. All that is necessary is to place the funnel in contact with the cranial bones of the ear. In applying the test the author states that he always uses a tube which is 6 inches shorter than the distance of hearing in the good ear of the patient.

981

Film Treatment After Mastoid Operations. M. DAURE, *Bull. de l'Acad. de Medecine de Paris*, March 19, 1918.

Daure strongly recommends the use of Barthe de Sandfort's paraffin mixture in mastoid after-treatment. A special plactic technic in the mastoid operation is followed which permits of enlarging the meatus to any desired size without leaving any raw surface there. The wound behind the ear is sutured and all dressings conducted through the enlarged meatus. An aseptic wick of gauze having been inserted into the cavity to dry it,

the paraffin mixture, previously sterilized in a flask at 120° C., is poured in through a nasal speculum until the cavity is half full. Before it solidifies the end of a sterile piece of stout cotton cord is passed into the paraffin. This first paraffin dressing is allowed to remain five or six days, and the later dressings two or three days. The external dressing of gauze is renewed about the third day and thereafter daily, the inner surface of the external ear being each time washed with ether. In renewing the paraffin dressing, the block of paraffin is easily and painlessly withdrawn by pulling on the cotton cord. The cavity is then merely dried with hot air or cotton. All the steps should be carried out aseptically. The paraffin dressings can be continued up to complete recovery, though at times, after the third week, washings with alcoholic boric solution or powder insufflations are substituted. In all cases with threatening or already established complications, or even where there is merely a long standing disease with pronounced infection, the author employs the Carrel treatment for a time before beginning the paraffin dressings. Into the abductor tube, passing through the meatus, are introduced about ten mills of Dakin's solution every two hours. After a variable period, the duration of which depends on laboratory studies if such are practicable, and averaging about a week, the first paraffin dressing is installed. By these methods complete epidermisation was obtained, in ten cases, in an average period of five weeks; in some cases on the thirty-third and in one even on the twenty-sixth day. The procedure combines the advantages and obviates the disadvantages of the different postoperative treatments hitherto commonly employed.

1001

Posterior Mastoiditis. E. J. Moure and J. Rozier, *Revue de Laryngol., d'Otol. et de Rhinol.*, March 15 and March 31, 1918.

Abscesses which have formerly been known under the general term of Bezold's mastoiditis may occur in certain regions of the neck. Their formation and situation depend upon (1) the disposition of the posterior groups of mastoid cells which may be postero-superior, posterior, and postero-inferior; (2) situation of the perforation of the mastoid abscess. This may occur either posteriorly through the canal for the mastoid emissary vein or through the temporo-occipital suture or postero-inferiorly through either the mastoid apex or its internal surface into the digastric groove. (3) The normal musculature of the neck. Three regions are naturally delimited, viz.: the trapezo-sterno-mastoid, in the upper part of the posterior triangle of the neck; the retro-maxillary, between the sterno-mastoid and the jaw, and the region of the great vessels along the carotid sheath. Treatment consists in first operating on the mastoid and then, not before, tracing out the sinus from the interior of the mastoid to the neck, and opening the neck abscess.

1049

Pyocyaneous Meningitis. J. Abadie and G. Laroche, *Bull. de l'Acad. de Medecine de Paris*, July 2, 1918.

Intraspinal injection of the patient's own serum apparently cured the young man when the spinal fluid and blood serum contained the pyocyaneous culture. The meningitis had followed a skull wound. Three applications of this autoserotherapy were made, injecting 3 c.c. of his serum at intervals of eighteen and five days. The serum agglutinated at 1 per thouand, showing the high antitoxin content.

1051

Experimental Meningococcus Meningitis. C. P. Austrian, *Bull. Johns Hopkins Hosp.*, Aug., 1918.

The cerebrospinal canal can be infected by way of the blood stream. Though under normal conditions the presence of a bacteremia does not lead to the development of meningitis, when a condition of hyperemia of the thecal vessels exists, meningeal inflammation may result. Neither

when normal conditions are present nor when meningeal irritation has been induced do meningococci introduced into the nasal mucous membrane gain access to the meninges The demonstration of meningococci in the nasal secretion is to be interpreted as evidence of the excretion of these organisms by this route, but the conclusion is not necessarily warranted that they find a direct portal of entry to the meninges by the same channel.

These observations seem important from an etiologic standpoint. They indicate the probability that epidemic cerebrospinal meningitis, as it occurs in man, is to be regarded as a metastatic disease developing in the course of a general infection, rather than as the evidence of a primary local disease. They do not necessarily indicate the portal of entry of the invader, nor antagonize the view that the cocci are taken into the body through the upper respiratory tract, a fact apparently established. The observation that meningococcal sepsis in rabbits is followed by the development of meningeal disease only when the meninges are not in a normal state is suggestive and may explain in part, at least, the occurrence of the disease in some of those exposed and its failure to develop in others in like contact with sources of infection.

1068

Value of Early Lumbar Puncture in Meningism. A. S. GILLETT, *Practitioner*, July, 1918.

Gillett analyzes sixty-five cases. Rash was absent in forty-eight; ten showed a diffuse scarlatiniform rash, observed between the seventh and twelfth days of disease. Petechial hemorrhage was apparent in three, one being very profuse. Four cases presented a papular rash within the first five days, the earliest observed being on the first day of disease. The pulse was extremely variable, no two cases being alike; increased in fifty-eight and keeping about normal (70 to 90) in the remaining seven cases. Features common to all were irregularity and variability, the frequency rarely being as high as the temperature would lead one to expect. An irregular, quickly variable pulse is nearly always present when the disease has obtained a firm foothold. In the majority of cases (fifty) the temperature rose suddenly to a height varying from 101 to 105. In eleven cases the rise was more gradual, taking from eight to sixteen hours to register above 100, and four cases were entirely afebrile. Headache was always present, but only in twenty-three cases was it definitely allocated to the occipital region, the remainder showing a general ache all over the head of a severe and, in a few cases, unbearable nature.

The general appearances in the majority of patients was typical: A flushed face of a slightly dusky tinge, and an extremely worried and anxious expression, coupled with dullness and apathy. General malaise and, in a few cases, a very definite nasopharyngeal catarrh, such as precedes measles. Vomiting was absent in thirty-two cases. Herpes, when present, always affected the lips, but fifty-two cases showed no sign at all of this affection. The pupils: Two main features were noticed in all cases as being constant: (1) dilatation generally equal, sometimes unequal; (2) reaction to light, always sluggish. Strabismus was absent in fifty-six cases; nystagmus, absent in fifty cases; ptosis, absent in fifty-five cases; conjunctivitis, absent in fifty-five cases; suppurative choroiditis was present in three cases. The knee jerks were absent in sixteen cases; Babinsky, present in twenty-three cases; abdominal reflexes absent from the first in fifty-six cases. A leucocytosis was present in all cases. The counts varied from 28,000 to 32,000.

Stiffness of the neck: This sign was of the utmost value. In no single case was the stiffness absent, varying naturally in amount from the severe type—giving later the true retraction of the head and perhaps opisthotonos—to the milder cases with comparatively slight stiffness, increased when the head is flexed. Definite retraction was observed in forty-two cases, but it was not a decided feature until a date varying from two to five days after the onset of the disease. Kernig's sign, too,

was almost equally constant, there being only three cases in which it was not present from the first. The sign was bilateral in fifty-eight out of the sixty-five cases. These details make it quite evident that, apart from stiffness of the neck, no data whatever can, in the early stages, justify dogmatic diagnosis. A more constant clinical aid is lumbar puncture, and its resulting bacteriologic investigation. Gillett urges that lumbar puncture should be performed at the earliest moment and not, as is often the case, only when the condition has become markedly indicative of meningeal irritation. It can do no possible harm; and, on the other hand, the value of such a procedure is incalculable. He suggests that this course be adopted more frequently in patients presenting a fever of uncertain origin, manifesting the general appearance and condition as noted above.

1085

Meningeal Cysts. A. E. HALSTEAD, *Surg. Clinics of Chicago*, 1918, p. 41.

The author classifies meningeal cysts under two general heads: (a) those found at autopsy, which during life have produced no symptoms; and (b) those cysts which are known to follow definite trauma. These develop later in life.

He says that the relation of the cyst to trauma varies in individual cases. In some, the symptoms pointing to the presence of a cyst may be deferred for months or years after the injury, and these are known as traumatic meningeal cysts. When traumatic cysts follow close upon a trauma the mode of origin is easy to determine. Evidences of recent hemorrhage are generally found with the cyst cavity and as a result of the effusion of blood the membranes have become separated. When the cavity has been gradually freed of the effused blood by a process of absorption of its cellular elements there remains a fluid which is identical with blood-serum, containing either a few blood-cells or blood-pigment.

In older cysts or those in which a considerable quiescent interval has elapsed between the injury and the formation of the cyst, the mode or origin is more difficult to explain. The presence of a low-grade inflammatory process, closing off a limited portion of the subdural or epidural space, is probably an important factor. Into these closed spaces an exudate takes place, probably from the perivascular lymph-spaces which remain open.

In old cysts where this inflammatory process has been active for a long time, the cyst wall becomes greatly thickened, and the rigidity which results unfavorably influences the prognosis after operation.

As to surgical treatment the procedure to be followed depends largely upon the character of the cyst wall and the location of the cyst, particularly its relation to large blood vessels. The ideal operation in epidural cysts is to remove the overlying bone, excise the dural membrane forming the inner wall of the cyst cavity and fill in the defect left in the dura with a fascial transplant. As a general rule the skull defect should be closed some time after the primary operation for removal of the cyst wall and the closure of the dural defect.

1086

Meningococcus Meningitis in Infants. M. LAVERGNE, *Le Nourrisson*, July, 1918.

In the course of this discussion of the etiology, symptoms, diagnosis and treatment of meningococcus meningitis in infants, Lavergne remarks that lumbar puncture in an infant is simple and absolutely harmless. The child should be placed on its side, one hand bending the head back so far as possible; the other hand, placed behind the knees, presses the thighs against the abdomen. If no fluid drips from the needle introduced into the subarachnoid space, he slips a guide into the needle. If this fails, he repeats the puncture in the interspaces above, which can be done in infants up to the tenth and eleventh dorsal vertebrae. He advises to withdraw as much of the cerebrospinal fluid as possible; the

results can be only good, as this relieves the centers from compression, gets rid of toxic fluid, and leaves room for the curative serotherapy. From 20 to 40 c.c. of fluid can generally be withdrawn in this way.

The first antiserum, he declares, should be polyvalent. The method of rapid agglutination will disclose the special type involved so that the specific antiserum can be injected the next day. There can be no inconvenience in injecting 20, 30 or even 40 c.c. of the antiserum. On the other hand, there is grave danger if an adequate amount of the antiserum is not given. The injections should be repeated as long as the cerebrospinal fluid shows meningococci and polynuclear cells. It should also be the routine practice to repeat the lumbar puncture from four to eight days after apparent recovery. This is the only means to detect an incipient recurrence. If the child's condition is very serious, Lavergne advocates injecting the antiserum directly into the ventricle, even when there is nothing to indicate walling off of the meningitis. He asserts that there is no danger, introducing the needle at the lateral angle of the fontanel and pushing it downward and inward, the tip pointing toward the external auditory meatus on the other side. The sedative influence of hot baths may be utilized. In case of complicating joint or iris trouble, the antiserum must be injected locally. Injection of the antiserum directly into the vitreous body has been followed by complete retrogression of iridochoroiditis. As early treatment here is of prime importance, ophthalmoscopic examination should be a routine measure with meningitis in infants. Serotherapy shows more failures in infants than in older children and in adults. Even in the apparently favorable cases in infants the diagnosis should be reserved. Some have reported good results from a fixation abscess or vaccine therapy. Those who fear anaphylaxis can certainly ward it off by giving a small injection of the antiserum every week.

1108

Meningococcus Carriers. W. R. Redden, *Boston Med. and Surg. Jour.*, May 9, 1918.

Redden presents the results of an investigation into the question of meningococcus carriers in the first naval district. Such carriers were isolated on the basis of agglutinations in 1/10 or 1/50 dilutions of polyvalent antimeningococcus sera on slides, followed by gross agglutinations in tubes, the final readings being taken after twelve hours in the incubator at 55° C. and twelve hours in the ice box. Over three thousand cultures were examined, three hundred of which were positive. Of this group about 40 per cent. agglutinated specifically in 1/10 antimeningococcus serum, and about 60 per cent. as high as the 1/50 dilution on the slide. It was found that results of gross agglutination in tubes rarely altered the positive findings obtained on slides. Repeated examinations of a group of one hundred carriers showed that only 16 per cent. were ready for discharge at the end of the minimal isolation period of twenty-one days; that 7 per cent. remained positive over forty days; that 6 per cent. showed positive cultures after three successive negatives; that 49 per cent. showed positive cultures after one or more negatives, thus demonstrating a persistent and intermittent type of carrier; and that a carrier may show a pure culture on one examination, on the next day only a few scattered colonies in a mixed culture, and on the third a pure culture of meningococci. Treatment was of no value. A sharp decline in the number of positive cultures from the carrier group was noted during two weeks of warm weather. From a study of thirteen groups of "contacts" and six groups of "noncontacts" the author arrived at the following conclusions: Under good hygienic conditions groups of naval men, if only moderately well selected on the basis of possible contact with a known case of cerebrospinal fever, show from 6 to 8 per cent. carriers. Under poor hygienic conditions such groups may show from 17 to 22 per cent. carriers. Among groups of naval men well selected on the basis of possible contact with

a case of cerebrospinal fever, and living in close contact with each other, 20 to 35 per cent. appear to be carriers; but when only a small group of guards, isolated from the rest of a crew, is considered, only 11 per cent. are positive. One group of one hundred men taken at random from a camp where there had been no case of cerebrospinal fever, and where living conditions are excellent, showed 9 per cent. carriers as contrasted with 25 per cent. which appeared in a group of one hundred taken from overcrowded barracks where a number of cases had occurred, and where from 20 to 25 per cent. carriers had been found on previous examinations. In another non-contact group of seventy-nine men representing a naval student body living in barracks under good hygienic conditions 9 per cent. were carriers as contrasted with the 1 per cent. found among one hundred women students of Simmons College and the first and second year Harvard medical students. The author points out that the important factors in the increase in carriers from 1 to 2 per cent. among civilians to 20 to 35 per cent. among recruits, are: contact with known cases of cerebrospinal fever; un-hygienic conditions such as come from crowded barracks; severe physical labor, coupled with exposure to extremes of heat and cold, and, finally, contact with carriers of meningococci.

1112

Atypical Form of Meningitis. F. RYDGAARD, *Hospitalstidende*, Dec. 1, 1918.

Among the cases reported by Rydgaard are two in which an aseptic purulent meningitis in a boy of 3 and a man of 28 was accompanied by diphtheria bacilli in the throat. It is possible that the toxic meningitis in the course of diphtheria may be comparatively frequent but escape recognition. He knows of only a few cases on record, including Reiche's three cases. Glaser has contended that diphtheria meningitis may develop with scarcely any manifestations of the diphtheria in the throat. Rydgaard's two patients were treated with an antimeningococcus serum, and recovery promptly ensued, but prompt recovery is the rule in this type of aseptic meningitis. In a third case of aseptic purulent meningitis the young woman had developed infectious sore throat but diphtheria bacilli were not involved, and the meningitis here also was evidently of purely toxic origin. The bibliography appended shows that an aseptic purulent meningitis may develop in the course of uremia or porotitis, or with lead or cocain poisoning, after spinal cocain or stovian anesthesia, with infectious processes in the vicinity of the meninges, and with abscesses at the back of the neck. One case is on record in which a nonsyphilitic woman for several years developed aseptic meningitis every month in connection with menstruation. There is also a series of cases on record in which absolutely no cause for the aseptic meningitis was detected.

1225

Oral Sepsis in Its Relationship to Systemic Disease. By DR. WM. W. DUKE.

At the present time there is so much attention being devoted to pathological conditions of the mouth and teeth as causes of various systemic diseases that this book is of timely interest not only to the dentist but to the physician. It takes up the subject of pyorrhea, alveolar abscesses, metastatic infection, nonrelated infection as influenced by oralsepsis, toxic effect of oralsepsis, and headache related to oralsepsis. The book contains also 170 illustrations and a very extensive bibliography.

Published by C. V. Mosby Co., St. Louis.

1226

War Wounds of the Lung. Notes on Their Surgical Treatment at the Front. By PIERRE DUVAL.

Surgery of the lung has been revolutionized during the war, and has taken its place in the routine of general surgery. As indicated in the title, this book is the result of an extensive experience obtained by the

author in active service at the front. His experience has convinced him with the new operative technique developed during the war, better results are to be obtained than heretofore. It may be unhesitatingly said that this book of but one hundred pages is one of the very important contributions to surgery that medical science has derived from the war. Special mention should be made of the chapters on "Operative Treatment of Wounds of the Lung," and "Operative Technique."

Published by John Wright & Son, Ltd., Bristol, Eng.

1227

A Manual of Diseases of the Nose, Throat and Ear. By DR. E. B. GLEASON.

So great has been the demand for this manual on diseases of the nose, throat and ear, that a fourth edition has been found necessary. This has been thoroughly revised, certain procedures which are no longer practiced, such as ossiculectomy and other intratympanic operations for catarrhal conditions, having been omitted and the space formerly devoted to them being used for other subjects. In describing operations only those are chosen that might be termed "standard" and which, because of their uncomplicated technique, are most likely to prove successful in the hands of the average operator. In reference to tonsillectomy, the Sluder method is not regarded by the author as "standard" because he does not consider it the operation of choice in most types of tonsil.

This book by Dr. Gleason being intended essentially for the medical student and beginning specialists, is accordingly written in a concise manner and devoid of extraneous discussions. It covers the field thoroughly, is essentially practical, and is entirely up to date.

Published by W. B. Saunders Co., Philadelphia.

1228

Otosclerosis (Idiopathic Degenerative Deafness). By DR. ALBERT A. GRAY.

There are few men who are better qualified from their intimate knowledge of the pathology and comparative anatomy of the ear to write on this perplexing subject than Dr. Gray.

The subject of otosclerosis may be truly said to be the *bete noir* of otology, and this authoritative exposition of the problem forms the most important contribution leading towards the ultimate elucidation of the puzzle. This book is the outcome of Dr. Gray's personal investigation in the biological aspects and the micro-pathology of the ear in otosclerosis. It shows a great deal of thought and labor given to the problem.

First, Dr. Gray deals with the question of heredity as a factor in otosclerosis, and he takes up an analysis of a number of family trees in which deafness was a feature. Nevertheless, he shows that while heredity is an important factor in the etiology of this disease, cases occur with comparative frequency in which this hereditary influence is absent. That is to say that there are some cases in which there is an underlying degenerative tendency brought into accentuation by a chronic inflammatory process. Next he takes up the biological aspects of the problem, and draws upon his great knowledge of the comparative anatomy of the labyrinth in its discussion. His conclusions in this respect are (1) that otosclerosis is the manifestation of a tendency to variation, using the term in its biological sense; (2) that while no single constitutional condition can be looked upon as the cause of the disease, such conditions may play an active part in making manifest a tendency which would otherwise have lain latent (local conditions in the middle ear, Eustachian tube or nasal passages); (3) an innate tendency of the cells of the cochlea to manifest otosclerosis as a result of the physiological processes of growth and repair; (4) variation in the biological sense in the nerve structures of the cochlea or in the bony capsule of the organ, or in the foot plate of the stapes and the walls of the oval

window, the reason why these structures are more liable to variation than the vestibule or the canals being that they are of more recent origin, and have not reached the same degree of stability.

Next, Dr. Gray takes up the pathological anatomy of otosclerosis. He describes his method of preparation of labyrinths for histological examination, and discusses in great detail the histo-pathological changes found in otosclerosis (cases that he personally prepared and studied). This chapter is illustrated by twenty photo-micrographic plates. In a short review it is impossible to give an adequate summary of Dr. Gray's views as to the pathological changes observed. The reader must be urged to read the chapter in full. But it may be stated that three types of change in the bone are met with. First, the most common type, absorption followed by deposition of bone, the new formed bone being in excess of that absorbed. Second, absorption followed by deposition of bone, the new formed bone being less in amount than that which is absorbed. Third, absorption without any subsequent deposition of bone. It is interesting to note that as regards the nerve structures of the ear, in three cases out of four no signs of pathological changes were observed, and in the fourth case no decision on this point could be reached. However, Dr. Gray believes that although nerve structures may present a perfectly normal appearance under the microscope, we are by no means justified in stating that they are normal in the physiological sense of the term. Furthermore, cases are on record in which marked pathological changes in the nerve structures of the membranous labyrinth were observed.

Finally, he takes up the question of treatment, and emphasizes the following points: (1) the innate tendencies of the cells and structure of the organ of hearing are characteristics of the individual which he must carry with him through life. (2) Constitutional and local conditions which tend to activate these potentialities must be remedied and each case must be treated individually.

Published by H. K. Lewis Co., Ltd., London.

1230

Pathologie de Guerre du Larynx et de la Trachee. By PROF. E. J. MOURE, DR. G. LIEBAULT, and DR. C. CANUYT.

This work, essentially practical, is the result of cases operated upon in the oto-rhino-laryngological center of the 18th district of the French medical service, under the direction of Prof. Moure.

The pathology of the larynx and trachea has already been dealt with in 1904 by Prof. Moure in his "Traite des Maladies de la Gorge et du Larynx," but the war has given rise to such a variety of lesions and surprises that a further exposition of the subject of war injuries of the larynx has been deemed necessary, and hence the present masterly work.

The first part of the book is devoted to a study of the functional disturbances of the larynx. War aphonia occupies a prominent place in it. Extrinsic or extralaryngeal lesions, if one excepts the neighboring organs of the larynx and trachea, often produce pressure upon the nerves with the causation of associated laryngeal paralyses. These paralyses are gone into by the authors in great detail.

Wounds of the larynx and trachea are considered with special reference to their symptomatology and complications. In the chapter devoted to foreign bodies in the air passages, the authors described their method of localization of the foreign body, and the most modern methods of extracting it.

Of special interest is that part of the work devoted to stenosis of the laryngo-tracheal passage. This constitutes all the capital part of the book. There is also a chapter devoted to Asphyxiating Gas on the larynx.

The second part of the book is devoted to War Surgery of the Larynx and Trachea. Three operative techniques are minutely described, namely, Tracheotomy, Thyrotomy, and Laryngostomy. These operations are described with an abundance of details and illustrations that makes this part of the work of especial value. The last part of the work is devoted

to Tracheo-laryngostomy in the modern surgical treatment of cicatricial Laryngo-stenosis, resulting from war wounds. Here is described operative technique for these strictures, the manner of obtaining their progressive dilatation, and finally their cure by laryngo-tracheal autoplastics.

A consideration of the work leads to the conclusion that it is one of the most important books that has made its appearance since the war began.

Published by Librairie Felix Alcan, Paris.

1231

Roentgen Diagnosis of Diseases of the Head. By ARTHUR SCHULLER. Translated by DR. FRED S. STOCKING.

This book represents the newer methods in Roentgenologic diagnosis of diseases of the head, and although essentially a work that will appeal more strongly to the Roentgenologist, it contains a great deal that is of importance to the specialist in diseases of the ear, nose and throat.

Chapter one deals with the normal skull. Chapter two deals with diseases of the skull (anomalies in structure, inflammation, atrophic and hyperostotic changes, tumors, and injuries). Chapter three deals with the Roentgen diagnosis of intracranial diseases (tumors of the hypophysis, acoustic tumors, and tumors in other localities within the skull). The book is well illustrated and contains an extensive bibliography.

Published by C. V. Mosby Co., St. Louis.

1232

The Histological Structure of the Cochlea of Birds and Its Injuries by Means of Detonations and Acoustic Overirritation. By PROF. SIEBENMANN.

Nabuo Satoh carried out these extremely delicate investigations under the direction of Prof. Siebenmann in the laboratories of the physiological institution (Prof. Metzner), and the otolaryngological clinic of the university of Basel. The book appeared at Benno Schwabe & Co. in Basel, 1917.

The work is of fundamental importance throughout. The first part describes the histology of the labyrinth of birds. This was studied by a new procedure introduced by Prof. Siebenmann, the fixating of the parts in the living. The technic of this procedure of fixating in the living is given in extenso. It is very important to men who make special studies, like anatomists, pathologists, zoologists.

To otologists the second part is more interesting, especially at the present time (shell shock) because it gives an account of the experiments. It is impossible to give a complete description of these experimnts here. The citation of a few important points may stimulate an interest in the book.

It says: "All the foregoing details show factors which give the labyrinth of birds a stronger construction and guarantee greater resistance against the impact of the labyrinthine fluid.

"I mentioned before that the acoustic and explosive traumatism produces on the whole smaller changes in bird's labyrinths than in the labyrinths of mammals, but the nature of the change is essentially the same: *It is the final result of a mechanical crushing of the cells of the papilla by means of the membrana tectoria.*"

"The traumatic changes of the nerves are first found in the *endings* of the nerves . . . . (ascending atrophying neuritis not descending as Wittmaack says) . . . . All signs of inflammation (like plasma cells or gathering of leucocytes, etc.) are absent in changes of the inner ear caused by detonations. There is always and everywhere simple crushing of the cells with necrosis, shrinkage and resorption, but without serious reactive changes in the places themselves or their surroundings.

Conclusions: 3. "The lesions produced in the labyrinth of birds by repeated detonations always begin in the sensory cells of the pars basilaris, and extend later on to the supporting apparatus, and to the

neighboring membranous labyrinth, and finally, but only exceptionally, to the nerve fibers, similarly as in guinea pigs and other mammals.

"4. If the experiments are continued the changes spread from the external part of the papilla which corresponds to the free margin of the membrana tectoria, towards the inner side that is in the direction of the insertion of the membrana tectoria.

"5. Every strong detonation causes an injury of the whole pars basilaris (cochlea) of the organ of hearing. The greatest effect is always at the same spot and, if the detonation is increased or the experiment is continued, spreads from the base towards the point and from the external towards the inner marginal zone of the papilla basilaris.

"6. There are no plasma balls (Siebenmann) in the ductus cochlearis during life under normal conditions. They are found only exceptionally after detonations and have to be considered as squeezed out protoplasm of cells, as ruins or remnants of cells.

"7. A pronounced regeneration even after a single detonation can only be observed in the top of the cochlea of birds. In the other parts of the cochlea a progressive atrophy, extending to all kinds of cells of the papilla, takes place."

The most important features of the book are first the mechanical explanation of the act of hearing. Secondly the experimental explanation of the question of shell shock.

Over fifty colored drawings of artistic execution illustrate the difficult matter. The fact that during the time this work was accomplished, the roar of cannon from the near Alsatian front was heard day and night, bears witness to the high scientific and artistic qualification of the authors.

S. HOLINGER.

1233

Concerning Some Headaches and Eye Disorders of Nasal Origin. By GREENFIELD SLUDER.

As is well known, Dr. Sluder has been a pioneer in calling attention to nasal ganglian neurosis and hyperplastic sphenoiditis as a cause of obscure headaches and eye disorders. The present book by Dr. Sluder is a more extensive elaboration of the subject, the subject matter being made up of three main subjects, supplemented by illustrative case histories: (1) vacuum frontal headache resulting from complete closure of the fronto-nasal duct with or without active inflammation; (2) the syndrome of nasal ganglian neurosis; (3) hyperplastic sphenoiditis. The surgical aspects of the subjects are treated fully. It is a work that is essentially rhinological, and should prove of great help to every rhinologist in elucidating some of the perplexing cases of chronic headache which he is called upon to solve.

Published by C. V. Mosby Co., St. Louis.

1234

Studies in the Anatomy and Surgery of the Nose and Ear. By DR. ADAM E. SMITH.

This volume deals with the anatomy of the nose and ear from a surgical standpoint. The illustrations were made directly from the sections prepared by the author, and drawn with great accuracy under his supervision. None of them are schematic but represent anatomy from a practical standpoint, showing the relation of parts to their natural surroundings, and to the head as a whole. There are practical points in treatment based on natural physical laws, the value of postur in the treatment of otitis media and mastoiditis being one of particular interest, and the mechanics of treatment by suction in frontal sinus and maxillary antrum disease being another. The fact is that the book is of the utmost interest to the nasal and aural surgeon, and is one that will well repay him as a guide in his operative work on the nose and ear.

Published by P. B. Hoeher, New York.